

User manual
Of
Pocket Ultrasound System
(Model: Q70, Q31, Q32, Q33, Q34, Q35, Q36, Q37,
Q38, Q39, Q39L (Sono-Key), Q80, Q51, Q52, Q53, D80,
Q7, MylabPocket)

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Compiled by: (Name/signature)	Chen Gen	Position:	Software engineer	Date:	2025-06-10
Reviewed by: (Name/signature)	Peng Jiang	Position:	R&D Manager	Date:	2025-06-23
Approved by: (Name/signature)	Hu Zeyi	Position:	Management Representative	Date:	2025-07-03

WuHan Youkey Bio-Medical Electronics Co., Ltd.

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1 Introduction

This manual describes the operation of the ultrasonic diagnostic equipment. In order to ensure the safe operation of the system, please read and understand the contents of the manual before using the system.

This specification is formulated and explained by the company.

The company reserves the right to change the contents of the instruction manual without prior notice.

Important statement!

1. The part or all of the contents of this manual shall not be copied or copied without written permission.
2. It is forbidden to modify the software or hardware of this product;
3. The scanner can provide the doctor with the image and data needed for clinical diagnosis, and the doctor is responsible for the diagnosis process;
4. Quality assurance does not include the following, even within the warranty period:
 - Damage or loss caused by improper installation or environmental conditions that do not meet the requirements;
 - Damage or loss caused by the supply voltage exceeding the specified range;
 - Damage or loss of equipment or components purchased from the company or its authorized distributor or agent;
 - Damage or loss caused by using the scanner in different countries.
 - Damage or loss caused by maintenance by non-authorized personnel of the company;
 - Damage or loss caused by force majeure, such as fire, earthquake, flood or lightning;
 - Damage or loss caused by error or rough use;
 - Failure is caused by other things, not the product itself.
5. Part of the waste or vulnerable parts may be produced when the product is in use or after the service life is exceeded, which will cause serious pollution to the environment or cross-infection if discarded at will, It shall be regulated and handled in accordance with local laws and regulations and other relevant provisions. It cannot be dealt with in the same way that normal waste is disposed of.

1.1 Maintenance and repair service

The standard warranty period of this product is 2 years, and the main warranty period is about 1 years. The warranty period from the product warranty card fills in the attached "date of installation" date, the warranty card is the only certificate calculation warranty period.

Within the warranty period, the product is provided with free customer service; but please note that even in the warranty period, due to the reasons on the page "important statement" caused by the products need maintenance, the company will charge maintenance services, you need to pay the cost of maintenance and spare parts costs.

After the expiration of the warranty, the company can provide maintenance services.

It should be noted that if you do not pay or delay the payment of maintenance costs, the company will temporarily suspend maintenance services until you pay.

We hereby declare that you must familiarize yourself with the operating instructions before use

and operate and use it in strict accordance with the requirements and methods of operation of the operating instructions. The Company does not assume any responsibility for safety, reliability and performance assurance due to any abnormality caused by operation, use, maintenance and storage in accordance with the requirements of this manual.

Operation taboo:

⚠ Danger ※ Do not modify this equipment, including equipment components, software, cables and so on. User modifications may result in security problems or reduced system performance. All modifications must be completed by the personnel approved by the company.

Intellectual Property Statement

This specification and the intellectual property rights of the products are owned by the company. No individual or organization may copy, modify or translate any part of this manual without the written consent of the company

1.2 Version information

The version of this instruction is as follows:

Version number: 1.0

Issue date: 2025.07

Document No: YK-PUS-UM-001

1.3 Product Information

Product name: Pocket ultrasound system

Product Model: Q70, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q39L(Sono-Key), Q80,Q51, Q52, Q53, D80, Q7, MylabPocket.

Name of the registrant: WuHan Youkey Bio-Medical Electronics Co., Ltd.

Registered address: 2nd Floor, Dingxin Industry Park, Jiayuan Road East Lake Development Zone Wuhan 430000 CHINA

1.4 other:

Company website: www.youkeymedical.com

WeChat public number: Youkey

2 Safety precautions

2.1 Security classification

- According to the type of anti electric shock:

Internal power supply, where the adapter is Class 1;

- According to the degree of anti electric shock:

Type BF application part;

- According to the protection degree of harmful liquid:

For model Q70, Q80, D80, Q7, MylabPocket: The Main unit is IPX4, The C10 probe is IPX7, The remaining probes is IPX4

For model Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q39L(Sono-Key): The Main unit is IP68

For model Q51, Q52, Q53: The Main unit is IP68

- According to the working mode:

Continuous working equipment.

- According to the degree of safety in the presence of flammable anesthetic mixture with air or oxygen or nitrous oxide:

Equipment not suitable for use in the presence of a flammable anesthetic mixture with Air or with Oxygen or Nitrous Oxide.

2.2 Symbol definition

In this manual, “ DANGER”, “ WARNING”, “**CAUTION**” is used to indicate the safety and other important matters, and their specific meanings are as follows.

Symbols and vocabulary	Meaning
 DANGER	Indicates that a hazardous situation may occur and, if not avoided, may result in death or serious injury.
 WARNING	Indicates that a potentially hazardous situation may occur and, if not avoided, may result in death or serious injury.
CAUTION	Indicates that the risk may occur, if not avoided, may cause property damage.

2.3 Security symbol

Security symbol	Detailed description
	Type BF application part Description: all the ultrasonic probes connected to the system are part of the BF application.
	"Be careful" indicates what should be noted. Be sure to read the instructions carefully before using the system.
IPX4	There is no harmful effect if the liquid is splashed into the shell from any direction.
IPX7	The device can be fully immersed in water for up to 30 minutes and remains in working order
IP68	The device can withstand immersion in water under conditions specified by the manufacturer (typically 1.5 meters depth or more) for a duration of at least 30 minutes without ingress of water that would be harmful.
	Non-ionizing electromagnetic radiation.

2.4 Safety warning information

In order to ensure the safety of the patient and the operator, the following safety rules should be strictly observed in the use of the wireless ultrasonic probe.



Do not use the scanner in an environment containing combustible gas, such as an anesthetic gas, hydrogen, or flammable liquid, such as ethanol. It may cause an explosion.



1. Do not disassemble the ultrasonic probe, which may cause electric shock.
2. Use the original power cable, or charging the scanner may cause electric shock.
3. Use the probe carefully, if the probe is scratched with the contact surface of the human body, immediately stop using the probe and contact the service representative. If you use a scratched probe, there is a risk of electric shock.
4. Every time you use the instrument must be checked for safety, do not let the probe by the impact of damaged ultrasound probe may cause the patient to be shocked.
5. Before performing an ultrasound check, check the surroundings to ensure safe use within the environment. Do not operate the unit in an environment with flammable or explosive liquids, vapors or gases such as oxygen or hydrogen.
6. Use sterilized ultrasound cover when doing gynecology exam.
7. Do not immerse the ultrasonic probe Magnetic interface or above in water or disinfectant. Because the Magnetic interface of the ultrasonic probe does not have a waterproof function, this may cause an electric shock or a probe malfunction.
8. Make sure the Probe is in good status before and after each exam. The defective Probe may cause electric shock.
9. Choose different Probe based on the exams. You can only use the Probe provided by the manufacturer.
10. In order to ensure safety, the charging of the system can only be carried out in the state of shutdown, and the charging is not allowed under the power-on state.
11. The Pocket ultrasound system does not support the contrast - enhanced sonography.
12. Keep this medical device 6 inches (15 cm) away from magnetically susceptible medical devices such as cochlear implants, neurostimulators, stents and shunts.



CAREFUL

1. Matters needing attention in clinical examination technology:
 - This equipment can only be operated by qualified medical personnel.
 - This manual does not introduce a clinical examination technique. It is necessary to select the correct inspection techniques according to the professional training knowledge and clinical experience.
2. Do not scan fetal, newborn baby or pregnant woman for a long time.
3. Please follow the ALARA principle during ultrasonic diagnosis, especially in the examination of pregnant women, fetuses and newborns. The sound power can be reduced as much as possible when satisfactory clinical images can be obtained.
4. If the APP software fails during installation or use, please promptly provide feedback to the after-sales maintenance personnel to avoid misdiagnosis.
5. The APP software will be upgraded from time to time, and new updates will be submitted by the developer. If you want a better experience, please pay attention to download and upgrade.
6. Do not use incompatible coupling agents, disinfectants, probe protective cover, probe, puncture rack.
7. Sterile gloves must be worn to prevent infection when using ultrasonic probes.
8. You must use a sterile ultrasound coupling agent. Use a coupling agent that is in compliance with local regulatory requirements. In addition, it is necessary to properly manage and use the ultrasonic coupling agent to ensure that it does not become a source of infection.
9. Normal ultrasound does not cause burns at room temperature; however, if the probe is placed in the same position for a long time, the patient may be burned.
10. The probe cover is made of natural rubber and is used with caution for natural rubber allergy.
11. During the examination, the temperature of the Transvaginal Probe lens surface should be lower than 43°C.

	1. In order to prevent abnormal probe function, read the following safety precautions: After each ultrasonic examination, the ultrasonic coupling agent on the surface of the probe should be thoroughly cleaned. Otherwise, the ultrasonic coupling agent will be solidified on the probe head, which will affect the quality of the ultrasound image. The probe should be cleaned and disinfected before and after each ultrasonic examination.
CAUTION	2. Ambient environmental requirements: Please use the ultrasonic probe in the specified environment: ● ambient temperature: 0°C ~ 37°C ● relative humidity: 30% ~ 85% (No condensation) ● Atmospheric pressure: 70KPa ~ 106KPa To prevent damage to the ultrasonic probe, do not expose the probe to the following environment: ● Place where the sun shines ● A place where the temperature changes dramatically. ● A place filled with dust ● Easy to vibrate place ● Place near the heat source 3. Repeated disinfection will lead to the safety and performance of the probe, the performance of the probe should be regularly checked.

2.5 WARNING Labels

The system has a variety of identification to cause the user to pay attention to the potential danger. The symbol on the warning sign  indicates the precautions for system security.

The instructions explain in detail the meaning of these warning signs. Read the instructions carefully before using the system.

3 Product overview

3.1 Indications for Use

Pocket Ultrasound System is intended for use by a qualified physician for ultrasound evaluation. Specific clinical applications and exam types include: Abdominal, Obstetrics, Gynaecology, Small Parts (breast, thyroid, etc), Peripheral Vascular, Urology.

3.2 Contraindication

Pocket Ultrasound System is not intended for ophthalmic use or any use causing the acoustic beam to pass through the eye.

3.3 Product specifications

3.3.1 Imaging mode

B mode

M mode

C mode

PW mode

Power mode

Combined (B+M; B+CD; B+PD; B+PWD)

3.3.2 Software version information

a) Embedded software(Firmware) release version: V2

b) Controlled software(APP) release version:

- Android platform Software version: V2
- Windows Platform software version:V2
- Get software from the USB flash disk with the unit.

3.3.3 Software running IT environment (Japan)

Software Environment	
Network bandwidth	<8Mbps
Port	8080-8084
IP range	192.168.254.10-192.168.254.200
Operating system	WindowsXP/7/8/10 or Android5.0 or above
Antivirus software	1.Windows system is recommended to install the anti-virus software, to protect the security of the system. 2.The general Android system brand equipment has built-in security procedures, no need to download; if the original system does not have its own security software, it is recommended to download some of the anti-virus software to ensure system software security.
Antivirus frequency	It is recommended to perform anti-virus once a week to protect the system.
Transmission/reception frequency band	2412MHz~2472MHz,5150-5250MHz
Modulation type	DBPSK,DQPSK,BPSK,QPSK ,16QAM, 64QAM
Frequency characteristics	802.11a.802.11b OR 802.11g
2.4G WI-Fi	TX power: 802.11b: 2.30mW/MHz 802.11g: 1.40mW/MHz 802.11n(HT20): 1.00mW/MHz 802.11n(HT40): 0.80mW/MHz RX sensitivity: -95.7dBm@DSSS -74.0dBm@OFDM
5G WI-Fi	TX power: 802.11a:1.10mW/MHz 802.11n(HT20): 1.00mW/MHz 802.11n(HT40):0.50mW/MHz RX sensitivity: 11a (6-54Mbps): 11dBm 11n20 (MCS0-MCS7):11dBm 11n40 (MCS0-MCS7): 71.3dBm
Method used for time synchronization	Add timestamp to the head

Security measures	1. When a Windows/Android tablet is connected to a device, other computers or tablets will not be able to access the network, ensuring the uniqueness of the connection. 2. To connect to a Windows/Android tablet without opening the ultrasound application, a password is required and is not publicly available. 3. If the main unit is not connected correctly, it may cause the software's data and functions to be unusable, and the device needs to be restarted before connecting. 4. If you find any IT related issues, please contact the manufacturer for resolution and do not handle them on your own. 5. Under crowded WiFi conditions, packet loss may occur, leading to image lag. Please ensure sufficient WIFI communication and do not connect multiple devices. 6. If the IT network fails during the transmission of DIDOM, it will result in image transmission errors or inability to transmit images. It is necessary to reconnect to the I-network before transmission. If reconnecting to the IT network still does not work, it is necessary to replace it with another T-network that complies with the TCP/IP protocol. 7. The following changes may lead to some risks that need to be evaluated by the responsible party: changes to the IT network include: I) changes in the IT network configuration; II) connection of additional items to the IT network; III) disconnecting items from the IT network; IV) update of equipment connected to the IT network; and V) upgrade of equipment connected to the IT network. 8. The 5G Wifi channels used are 36,40,44,48.
NOTE: the frequency band 5150-5250 is limited to indoor use only.	

3.3.4 Power condition

Internal Battery (7.6V 1300mAh)

Charging power input: DC 12V/1.5A

Internal Battery (7.6V 2000mAh)

Charging power input: DC 12V/1.5A

Internal Battery (7.4V 2600mAh)

Charging power input: DC 12V/1.5A

Note: Can not work when charging.

3.3.5 Environment condition

	Work environment	Storage and transportation environment
Ambient temperature	0°C~37°C	-20°C~+55°C
Relative humidity	30%~85% (No condensation)	30%~95% (No condensation)
Atmospheric pressure	860hPa~1060hPa	700hPa~1060hPa

⚠
WARNING:

Transport:
Do not use or store the system outside the specified environmental conditions.

Working:

1. Make sure the scanner is held firmly, or it will drop and hurt the patient.
2. Use the scanner in a dry environment, the operation of environmental temperature and humidity changes, may lead to liquid condensation in the circuit board, there is the risk of short circuit.
3. Do not operate the unit in an environment with flammable or explosive liquids, vapors or gases such as oxygen or hydrogen. Do not use the scanner in an environment containing combustible gas, such as an anesthetic gas, hydrogen, or flammable liquid, such as ethanol. It may cause an explosion.
 - A. If there are flammable substances in the environment, do not use the scanner.
 - B. Use the real-time detection environment to detect flammable substances after the system is turned on. Do not attempt to turn off the device or unplug the power supply. First empty the air in the area and ensure a smooth ventilation and then turn off the power.
4. If the system fails, please do not disassemble the scanner, please contact the service center or your sales representative.

3.3.6 Dimensions and weight

2.3.6.1 Main host

Model	Is the transducer replaceable	Size	Net weight
Q70	Yes	115mm(L)*42mm(W)*25mm(thickness)	110g
Q31	No	111mm(L)*55mm(W)*25mm(thickness)	110g
Q32	No	120mm(L)*53mm(W)*25mm(thickness)	130g
Q33	No	114mm(L)*41mm(W)*25mm(thickness)	105g
Q34	No	119mm(L)*41mm(W)*25mm(thickness)	120g
Q35	No	163mm(L)*41mm(W)*25mm(thickness) 直肠+线长: 2130mm	280g
Q36	No	163mm(L)*41mm(W)*25mm(thickness) 直凸+线长: 2130mm	290g
Q37	No	120mm(L)*73mm(W)*25mm(thickness)	150g
Q38	No	111mm(L)*41mm(W)*25mm(thickness)	110g

Q39	No	130mm(L)*55mm(W)*25mm(thickness)	130g
Q39L (Sono-Key)	No	154.5mm(L)*77mm(W)*25.5mm(thickness)	127g
MylabPocket	No	124mm(L)*41mm(W)*25mm(thickness)	110g
Q51	No	132mm(L)*54mm(W)*25mm(thickness)	170g
Q52	No	130mm(L)*54mm(W)*25mm(thickness)	160g
Q53	No	134mm(L)*54mm(W)*25mm(thickness)	150g
Q80	Yes	116mm(L)*46mm(W)*28mm(thickness)	130g
D80	Yes	144mm(L)*57mm(W)*24mm(thickness)	180g
Q7	Yes	124mm(L)*41mm(W)*25mm(thickness)	110g

2.3.6.1 Probe

For model Q70, the optional probe models are C60 (convex array), C50 (convex array), L40 (linear array), L25 (linear array), C15 (micro convex), C10 (Endocavitary), P20 (phased array).

Model	Type of Probe	Size	Net weight
C60	Convex array transducer	73mm(L)*28mm(W)*38mm(thickness)	70g
C50	Convex array transducer	53mm (L) * 28mm (W) *38mm (thickness)	50g
L40	Linear array transducer	55mm (L) *28mm (W) * 30mm (thickness)	30g
L25	Linear array transducer	41mm (L) * 28mm (W) * 30mm (thickness)	20g
C15	Microconvex array transducer	41mm(L) *28(W) * mm*32mm (thickness)	20g
C10	Endocavitary array transducer	212mm(L) *28 (W) * mm*41mm (thickness)	50g
P20	Phased array transducer	41mm(L) *28mm (W) * 37mm (thickness)	30g

3.4 system configuration

The system is mainly composed of main unit equipment, transducer and application (Android/Windows platform).

3.4.1 Standard configuration

- Main unit: 1
- Matching probe: Depending on the number of probes each supports
- Appendix
 - Application
 - Operation manual

3.4.2 Components

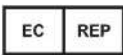
3.4.2.1 Optional Probe

Transducer model	Type of Transducer	Intended use	Applicable site	Center frequency	Frequency range
C50	Convex array transducer	Gynecology and obstetrics, abdominal kidney	body surface	3.5MHz	2.0~5.0MHz
C60	Convex array transducer	Gynecology and obstetrics, abdominal kidney	body surface	3.5MHz	2.5~5.0MHz
C15	Microconvex	Gynecology and	body	6.5 MHz	5.0~8.0MHz

	array transducer	obstetrics, abdominal kidney	surface		
L40	Linear array transducer	Small organ carotid artery	body surface	7.5 MHz	6.0~11.0MHz
L25	Linear array transducer	Small organ carotid artery	body surface	7.5 MHz	6.0~11.0MHz
C10	Endocavitary array transducer	Department of Obstetrics and Gynecology, urinary system	Via vagina	6.5 MHz	5.0~8.5MHz
P20	Phased array transducer	Heart, Gynecology and obstetrics, abdominal kidney	body surface	2.8MHz	2.0~4.0MHz

3.5 Symbols description

This device uses the following symbol identification, the following list shows its meaning.

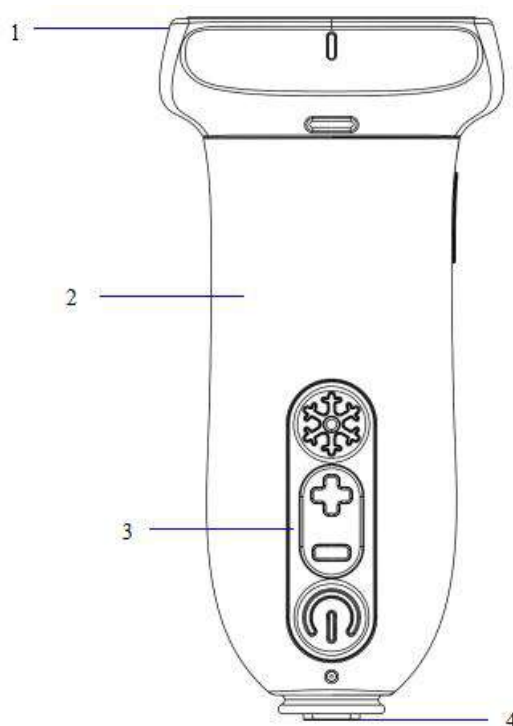
No.	Symbols	Description
1		Type BF application part All ultrasonic probes are part of the BF application.
2		Please refer to the instruction manual for this symbol to avoid accidents
3		This symbol represents the product serial number
4		This symbol represents the date of production
5	IPX4	There is no harmful effect if the liquid is splashed into the shell from any direction
6	IP68	The device can withstand immersion in water under conditions specified by the manufacturer (typically 1.5 meters depth or more) for a duration of at least 30 minutes without ingress of water that would be harmful.
7	IPX7	The device can be fully immersed in water for up to 30 minutes and remains in working order
8		European Authorized Representative
9		No discard it at will is allowed.
10		To identify the country of manufacture of products
11		Indicates the item is a medical device

No.	Symbols	Description
12		Indicates a carrier that contains Unique Device Identifier information.
13		MR Unsafe
14		RX only
15		Wireless signal transmission

3.6 Introduction of each component of the system

For model Q31, Q32, Q33, Q34, Q37, Q38:

The probe of this type of equipment is not removable, and different probes with the host will have differences in appearance, and the differences are reflected in the probe part.

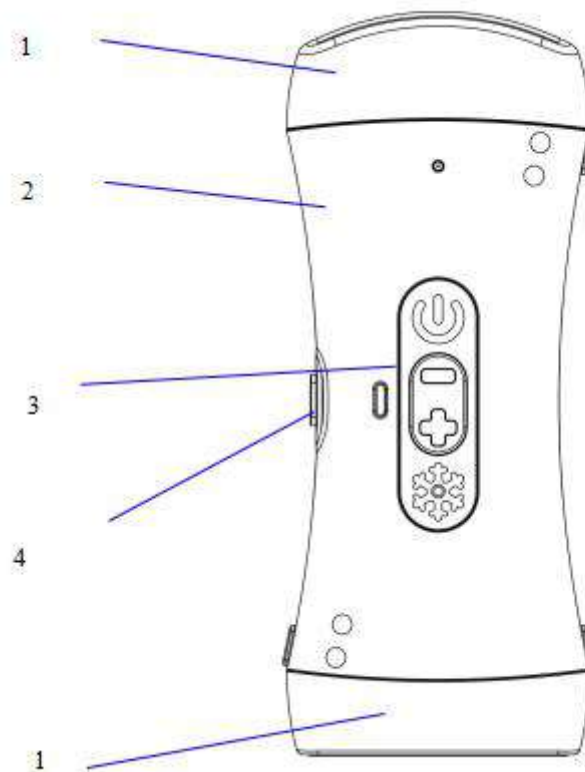


No.	Name	Function
1	probe	Emit ultrasound
2	Host principal	Control probe operation

No.	Name	Function
3	Control area	Operation control
4	Magnetic interface	It is used to connect an external adaptive power supply to charge or transmit USB mode signals

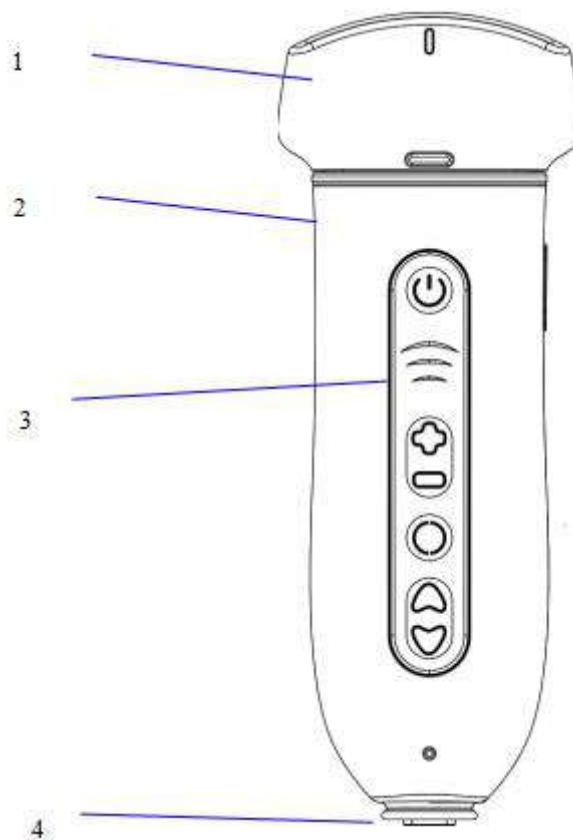
For model Q51, Q52, Q53:

The probe of this type of equipment is not removable, and different probes with the host will have differences in appearance, and the differences are reflected in the probe part



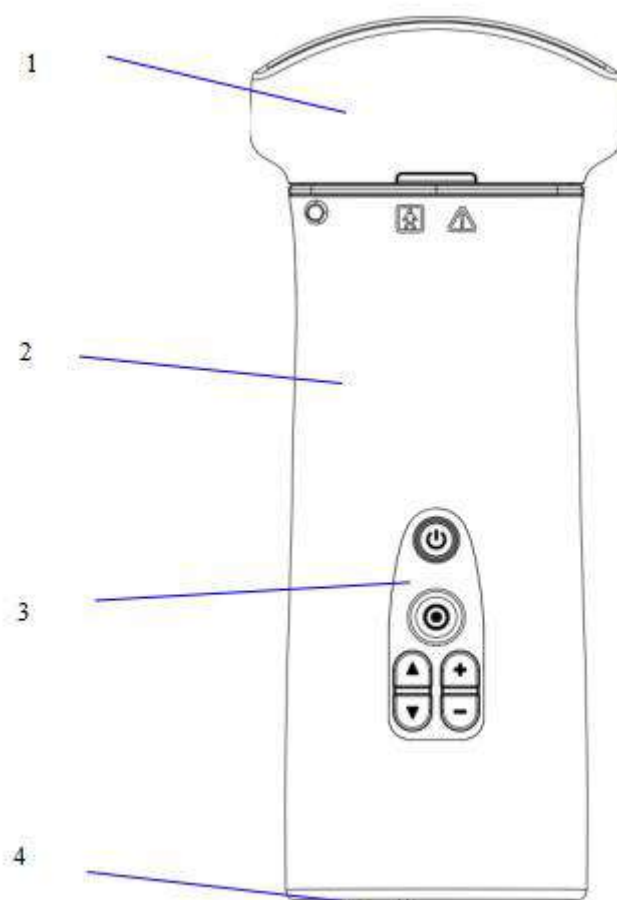
No.	Name	Function
1	probe	Emit ultrasound
2	Host principal	Control probe operation
3	Control area	Operation control
4	Magnetic interface	It is used to connect an external adaptive power supply to charge or transmit USB mode signals

For model Q70



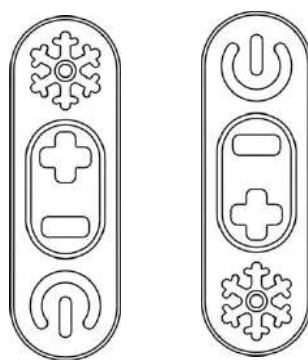
No.	Name	Function
1	probe	Emit ultrasound
2	Host principal	Control probe operation
3	Control area	Operation control
4	Magnetic interface	It is used to connect an external adaptive power supply to charge or transmit USB mode signals

For model D80



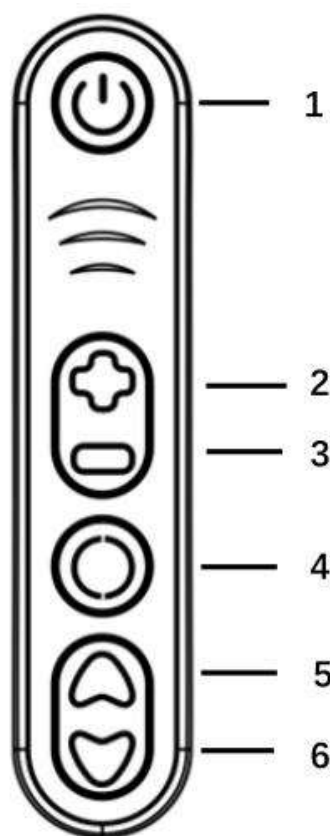
No.	Name	Function
1	probe	Emit ultrasound
2	Host principal	Control probe operation
3	Control area	Operation control
4	Magnetic interface	It is used to connect an external adaptive power supply to charge or transmit USB mode signals

3.7 Control panel



(Left: model Q31, Q32, Q33, Q34, Q37, Q38 right: model Q51, Q52, Q53)

Serial number	Button icon	button name	Function
1		Power button	1. Long press: Power off 2. Short press: Power on / Image mode switch
2		(Gain) “+” button	Increase Gain
3		(Gain) “-” button	1. Short press: Decrease Gain 2. Long press: One-click optimization
4		Freeze/Unfreeze button	Short press: Freeze / Unfreeze image



(:model Q7,Q70)

Serial number	Button icon	Button name	Function
1		Power/Freeze/ Unfreeze button	1. Long press: Shut down 2. Short press: Power on/freeze/unfreeze image
2		(Gain) "+"button	Increase Gain
3		(Gain) "-"button	1. Short press: Decrease Gain 2. Long press: One-click optimization
4		Main menu button	Short press: Switch image mode
5		(Depth) “▲” Button	Increase Depth
6		(Depth) “▼” Button	Decrease Depth



(:model ,D80)

Serial number	Button icon	Button name	Function
1		Power/Freeze/Unfreeze button	1. Long press: Shut down 2. Short press: Power on/freeze/unfreeze image
2		Main menu button	Short press: Switch image mode
3		(Depth) “▲” Button	Increase Depth
4		(Depth) “▼” Button	Decrease Depth
5		(Gain) "+"button	Increase Gain
6		(Gain) "-"button	1. Short press: Decrease Gain 2. Long press: One-click optimization

3.8 Basic interface

3.8.1 Android application interface

Note: All models have same interface.

The interface layout diagram for the Android application is as follows:

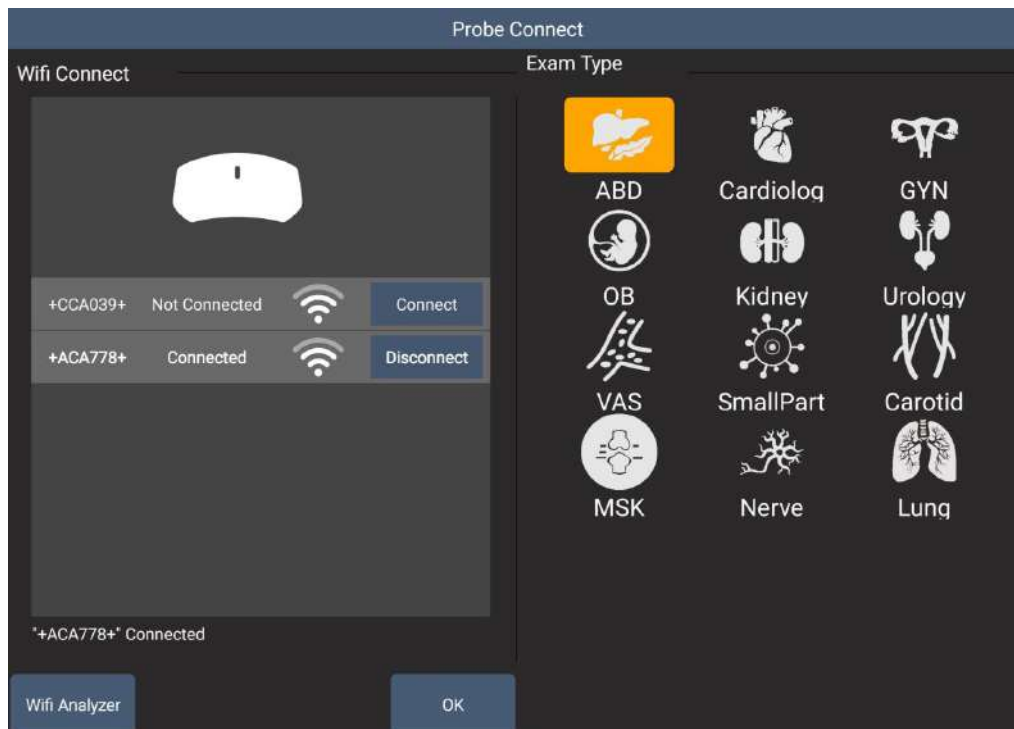


Figure 2.8.1 Android interface layout - Connect the probe

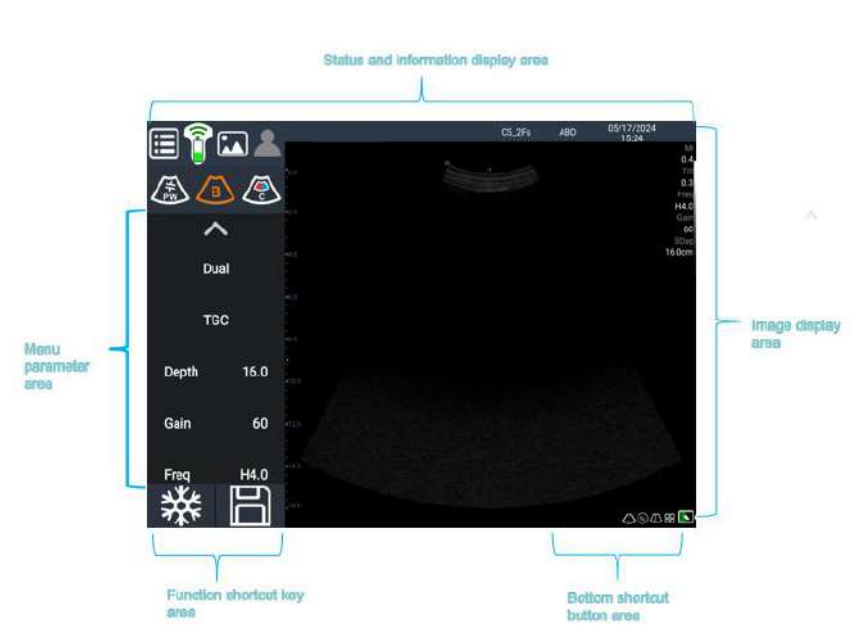


Figure 2.8.2 Interface layout diagram

■ Status and information display area

The status and information display area includes system menu, WiFi/USB connection sign, patient information management, probe type, inspection type, puncture line, battery charge and system time.

- System menu

Contains pre-set, version information, operation manual.

- WiFi/USB connection sign

Displays the type of probes currently connected. At the same time, the strength indicator also

has the function of pressing Probe. When clicking “” the indicator, the probe selection dialog box will pop up. When using USB to connect the probe, the indicator will change to



”display USB connection.

- Probe type

Displays the currently used probe model or the default probe model.

- Inspection type

Displays the type of examination currently in use, such as abdomen, heart, etc., click to select the check mode.

- Guide line

The system support 2 guide lines, when you toggle it on, you can adjust the position and angle of the guide line.

- Battery charge

- Probe battery power (upper): after the probe is connected, the current probe is displayed.
- Device battery power (below): the display device opens the application and displays the current power of the display device (mobile phone / tablet).

- System time

Displays the current system time. Check time as the image freezes when the system freezes.

■ Menu and Image Parameter display area

The areas can be divided into two parts: image mode switching area and image parameter adjustment area.

-  B mode, click to switch to M mode, click back to B mode;
-  Color mode, Click to enter Color mode, click again to enter Power mode;
-  PW mode, Click to enter the pre-startup status of PW mode and click again to start / pause to get the spectrum. It's the same function as update.
-  Drop-down menu flag, click to enter the corresponding image mode of all parameters adjustment.



Image parameter adjusting pulley: Slide up and down or click on the pulley to adjust the corresponding parameters.

- Function shortcut key area

Contains freeze/unfreeze /saves image buttons



Freeze and unfreeze the clinical images



Save image button.

- Image area

The image area displays images of each mode and probe direction markers, time lines (in M mode), PW sampling lines (PW mode), axes (including depth axes, time axes), etc., while annotating information and measuring, The gray bar also appears here.

3.8.2 Windows application interface

Note: All model have same interface.

The interface layout diagram for the Windows application is as follows:

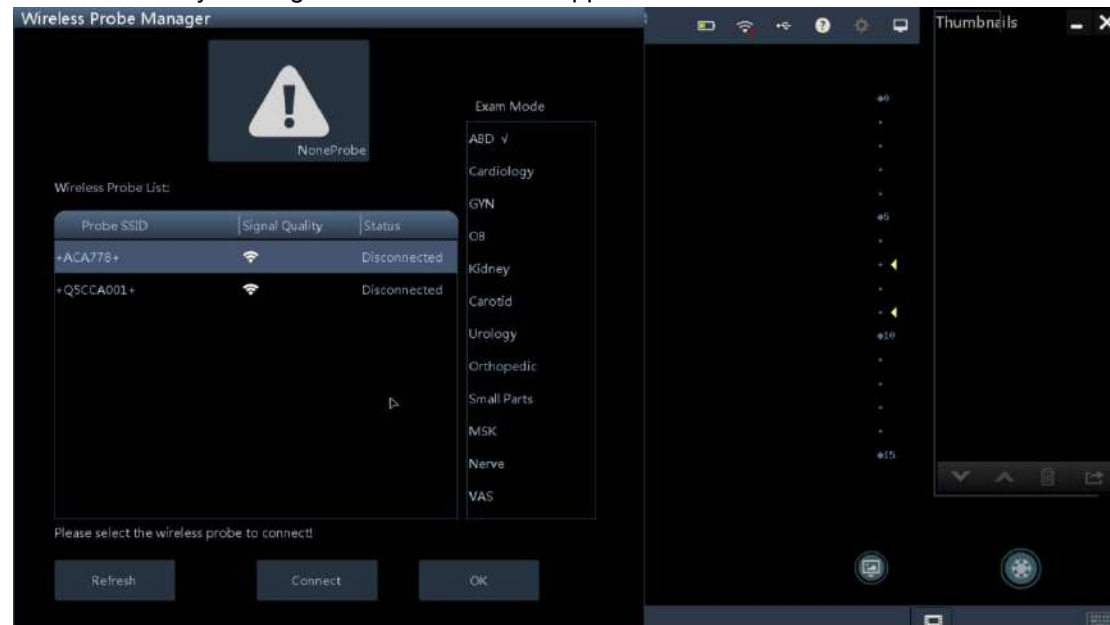


Figure 2.8.3 Windows interface layout - Connect the probe

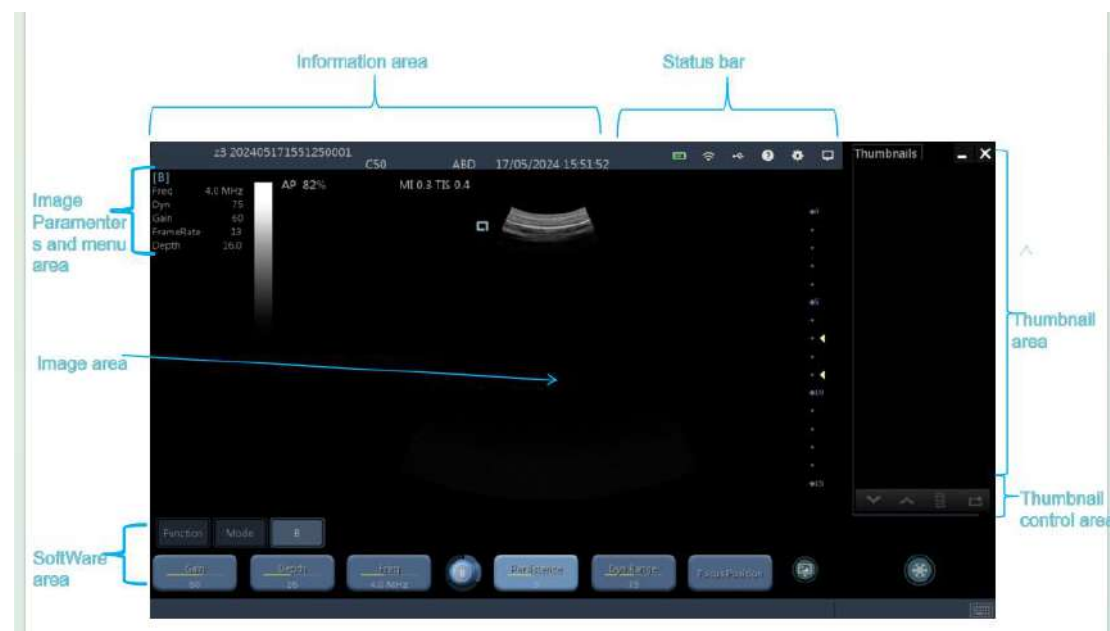


Figure 2.8.2 Interface layout diagram

■ Information area

The information area includes manufacturer identification, patient information, hospital name, probe type, current inspection type, date, inspection time, freezing mark, etc.

● Manufacturer identification

Show the manufacturer's identity in the upper-left corner of the screen.

● Hospital name

Show the hospital name. The hospital name setting path is [preset] ->[system preset]->[Hospital Information].

- Time

Show the time, that is, the date and time of the system. The date and time and display format preset path is "[preset] -> [system preset]->[composite preset]". Time as the image freezes when the system freezes.

- Freezing mark

Freezing mark,  Indicates that the current image is frozen.

- Patient information

Show patient name, ID, sex, age. Patient information is entered through the "patient Information" dialog box or imported locally stored patient information data in the patient list page.

- Probe type

Show the currently used probe model or the default probe model.

- Current inspection type

Shows the type of examination currently in use, such as the ABD.

Image parameters and menu area

Image parameters share this area with the menu. When a menu is not displayed on the screen, the area displays the image parameters of the current imaging modes.

- Menu area

Menu pop-up overrides image parameters.

Menu operation can be done by touch screen, cursor and multi-function knob.

The opening and closing of the menu is controlled by the [function]→ [measure] button.

The menu is divided into menu title bar, menu item and page turn button and so on.

- Image area

The image area displays images of each mode and probe direction markers, time lines (M mode), PW sampling lines (PW mode), axes (including depth axes, time axes), etc., while annotating information, body marks, measurements, gray bar also appears here.

Zoom in on the image thumbnail area

After entering zoom-in mode, the area displays the thumbnail of the enlarged image, and the thumbnail box shows the current magnified area.

Thumbnail area

A thumbnail showing a stored image or movie under the current patient's examination.

Thumbnail control area

- Page turning: When you save an image with more than one page of thumbnail, click  or  button to turn down or up;
- Delete: Select one or more thumbnails, click  to delete the image;
- Export: Select one or more thumbnails, click  to export images to storage such as U disk.

- Soft key control area

Soft key operation: click the Soft key directly to control.

【Function】

- Amplify Enter / exit image multiplication

- Comment Enter comment, import the information you want
- Body mark Enter the selection panel, select the body mark you need, change the scanner angle, then confirm or delete it.
- Measure Enter the Measure menu.
- Patient list Enter the Patient list
- Report Enter the Report
- Clear all Delete all comments on screen.
- Arrow Add arrow that can be used for dimensioning, not editable when arrow is yellow, click to blue the arrow, Then you can move the arrow position and adjust the arrow direction with the multi-function knob.
- Save parameters Save self-adjusted satisfactory parameter



- Probe battery power display



- Wifi connection and exam mode choose interface.



- Switching of input method



- Probe USB connection and selection of check Type



- Electronic manual



- System preset



- Shows the current system for storage, print tasks, and exit the application.



- Selectable probe (Only for model Q70)

3.9 Information security

3.9.1 Forget password

When the user forgets the password, the software can be reinstalled. At this time, the original password is cleared and a new password can be set.

3.9.2 User classification

User category		Permission division
Main user	Admin	Administrators, regular users and login passwords can be added/modified/deleted to view all patient information.
	Manager	Add/modify/delete common users and login passwords, browse all patient information
	Ordinary account	Can only manage patient information under this account
	First aid mode	No need to log in to the password, only the patient information under the account can be managed

3.9.3 Password setting

The user's login password is 8-20 digits and consists of numbers, letters or special symbols. When you first install it, the default login password is 12345678. Please change your password in time to ensure your account is secure.

After selecting the save password and automatic login function, the user can log in without a password next time, but need to enter the password again every month to ensure the security of use.

3.10 Power indicator light

Serial number	Category	Status indication	Features
1	power indicator light	(Green) Flashing	Boot process
		(Green) Slow flash	Freeze
		(Green) Constantly bright	work
		(Blue) Constantly bright	Charging in progress

4 Basic introduction

4.1 Working power supply

The external power supply of Pocket Ultrasound System (model: Q70, Q31, Q32, Q33, Q34, , Q35, Q36, Q37, Q38,Q39, Q39L(Sono-Key), Q51, Q52, Q53, MylabPocket) , Q80, D80,Q7 must meet the following requirements:

- Basic information of power adapter:
- Specification parameters: Input AC110-240V~50/60Hz 0.6A; Output: DC 12V 1.5A
- Charging port power input: DC 12V, 1.5A
- The power adapter must use an adapter that complies with the IEC 60601-1: 2012 standard, otherwise it may affect the basic performance of the device.
- Internal power supply: For model Q70, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q39L(Sono-Key), MylabPocket, Q7: DC 7.6V 1300mAH;
For model Q51, Q52, Q53, Q80: DC 7.6V 2000mAH;
For model D80: DC 7.4V 2600mAH.

The internal power supply system must meet the following requirements:

- After being fully charged, it can work continuously for more than 4 hours. Batteries will have self discharge phenomenon (about 1% per day), and it is necessary to maintain a complete charge and discharge of the battery once a month. When charging, this product will automatically shut down.
- The battery is inside the host and its model is "CLY502775", which cannot be replaced.

Declaration: The adapter, host, and control software (Windows, Android) together constitute the ME device

4.2 Turn on / off

4.2.1 Turn on

 WARNING:	1. Make sure the Probe is connected to the main unit firmly before you turn on the scanner. 2. When handling the probe head, make sure that the probe is closed or frozen.
---	--

 CAREFUL:	Perform routine checks to make sure the device is working safely and efficiently. Turn off the main unit and contact with the local representative when you meet unusual situations.
---	--

- Check before Turn on the device.

Before Turn on, please carefully check or operate the following items:

Serial number	Inspection items
1	Temperature, humidity and atmospheric pressure shall meet the requirements for use.
2	The probe shall not be damaged or soiled.
3	Clean the site and the environment.
4	Probe cleaning and disinfection.

Press the power button to turn on the probe.

Check whether the probe is normally activated, refer to the following items to open the probe:

Serial number	Inspection items
1	There shall be no abnormal sound, smell or overheating.
2	There is no obvious abnormal noise.
3	Check if the Probe lens surface is overheated when connect the display device to the scanner.

 WARNING:	1. The use of abnormal heating probes may burn patients. 2. If any abnormality is found, the probe is faulty. Turn off the device immediately and contact the service representative.
---	---

4.2.2 Turn off

Long press the power button to turn off, the power light goes out.

After ultrasonic examination, the ultrasonic coupling agent on the surface of the probe should be completely erased. Otherwise, the coupling agent will be solidified on the probe head and affect the quality of the ultrasonic image.

Before and after each ultrasonic examination, the probe should be cleaned and disinfected.

4.2.3 Change the detachable probe (only for model Q70)

- Be sure to replace the probe when the host is off or frozen.
- When installing the probe, align the probe connection end with the corresponding end of

the host and carefully push it into place.

When removing the probe, the finger can be pressed on the raised part of the probe surface and the probe can be carefully pulled out.

4.3 Connection

4.3.1 Wifi Connection

After the machine starts, select the current scanner corresponding to the WiFi hot spot name, on the end device click to connect.

4.3.2 USB Connection

Windows: Install the Windows driver in SonoIQ folder, Connect the straight USB to the scanner Magnetic port, connect the elbow USB to the Windows device and you will get images immediately.

Android: Connect the straight USB to the scanner Magnetic port, connect the elbow USB to the Android device and you will get images immediately.

5 Detailed operation introduction

5.1 Image mode

Mode	Explain
【B】	Click to enter B mode.
【M】	Click to enter M mode.
【Color】	Click to enter Color mode.
【Power】	Click to enter Power mode.
【PW】	Click to enter PW mode.

5.2 Image parameter adjustment

Before adjusting the image parameters to optimize the image, adjust the brightness of the display so that it works best.

Purpose	Optional operation
Changing image brightness	Adjust gain Adjust sound power Adjust the TGC for the corresponding target area
Changing gray-scale image effect	Adjust dynamic range Adjust effect Adjust frame correlation Click [one key Optimization] to optimize one key
Increasing frame rate of Gray-scale Image	Reduce depth
Change the effect of blood flow image display	Adjust color gain Adjust color frequency Adjust of deflection Adjust afterglow Adjust scale Adjust speed Adjust wall filter Adjust color priority

5.3 Parameter adjustment about B mode

B mode is the system's default imaging mode. The system displays echoes in two dimensions by assigning a brightness level based on the echo signal amplitude. To achieve the best possible image quality, properly adjust the display brightness, gain, depth settings, viewing angle, and exam type. Also, select an optimization setting that best matches your needs.

5.3.1 B mode image parameter

During B-mode image scanning, the image parameter area on the left side of the screen provides real-time parameter information, which allows you to adjust the following parameters:

Adjustment method	Parameter term
Control panel adjustment	Gain, depth, one-button optimization
SoftKey adjustment	Frequency, extended imaging, frame-related, dynamic range, effect, focus, spatial compounding, image enhancement, pseudo-color map, left and right turning, up and down, sound power, TGC, TSI

5.3.2 B mode image optimization

Gain

Resume The total gain of the image in the two-dimensional mode , displays in real time on the image parameter area on the left side of the screen.

Effect By increasing the brightness of the gain image, more echo signals can be observed, but at the same time, there will be more noise. .

Depth

Resume For adjusting the depth of the image display, the range of image depth can be adjusted by different probes. The depth value is displayed in the image parameter area on the left side of the screen in real time.

Effect The deeper the depth, the wider the observed tissue; the smaller the depth, the shallower the observed tissue. When the depth increases, the frame rate decreases.

TGC

Resume The attenuation caused by increasing tissue depth is compensated and the depth gain is adjusted in different segments .

Effect By adjusting the signal gain in a specific depth range, the echo of the tissue image is uniform.

Frequency

Resume The emission frequency of the probe can be selected by fundamental frequency or harmonic frequency.

The frequency value is displayed in real time on the image parameter area on the left side of the screen. There are three frequency modes in the fundamental wave or the harmonic wave: "penetrating power", "conventional", and "resolution".

Effect The higher the frequency, the better the near-field resolution, but the penetration force decreases.

Harmonics can enhance the near-field resolution and reduce the noise with low frequency and large amplitude.

Persistence

Resume Improve the image quality by superposition of adjoin images.

Effect Better image quality, may loss details of the image.

Dynamic range

Resume Adjust the contrast of black-and-white images, compress or expand the gray-scale display range.

Effect The larger the dynamic range, the darker the overall image, the smaller the contrast, and the greater the noise.

Focus Position

Resume Optimize the image of a specific depth by adjusting the location of the focus.

Effect The penetration and resolution near the focal point are higher than those outside the focus.

Photographic enhancement

Resume By enhancing the contour of the image to distinguish the boundary of the image, the goal of optimizing the image is achieved.

Effect The larger the value, the finer the image, and the more prominent the image outline.

Cross Beam

Resume The image is optimized by merging multiple frames from different deflection angles into a single frame.

Effect After opening space recombination, the image has the characteristics of reduced speckle noise and clear image, which improves the contrast resolution and reveals the location of the lesion more easily.

L/R Flip, U/D Flip

Resume By changing the way the image is displayed to obtain a better viewing angle, the vertical flip up and down and the left and right horizontal flip can be carried out. The "Q" mark on the screen is used to identify the direction of the image, and the "Q" mark in the upper left corner is the default image direction of the system.

Effect This function is effective for real-time, frozen and movie playback images.

Acoustical Power

Resume Adjust the power of the probe to emit ultrasound.

Effect The louder power, the overall brightness of the image increases evenly, and the detectable depth also increases. In clinical application, the proper sound power must be selected according to the actual situation and the "ALARA sound power principle".

Gray Map

Resume Adjust the black and white grayscale contrast to optimize the image.

Effect This function is effective for real-time, frozen and movie playback images.

Expand mode

Resume Increase the scanning range of the probe.

Effect The probe's scan range expands and the frame rate drops slightly.

Colorize map

Resume Color difference is used instead of gray difference to image, that is, grayscale atlas colorization.

Effect Pocket ultrasound system provides four different pseudo-color maps, which are effective for real-time, frozen and movie playback images.

Biopsy

Resume Choose and set the biopsy guide.

TSI

Resume Tissue feature imaging, according to tissue features to select sound velocity, make the image more typical.

Pocket ultrasound system offers four characteristic tissue optimizations: fat, fluid, routine and muscle.

5.4 Parameter adjustment about M mode

Motion mode (M Mode) is an extension of B mode. It provides a trace of the B image displayed over time. A single beam of ultrasound is transmitted, and reflected signals are displayed as dots of varying intensities, which create lines across the screen. It reflects one-dimensional spatial structure, so M-mode is often used to detect the heart.

5.4.1 M mode image parameter

During M-mode image scanning, the image parameter area on the left side of the screen provides real-time parameter information, which allows you to adjust the following parameters:

Adjustment method	Parameter term
Control panel adjustment	Gain, depth
SoftKey adjustment	Frequency, dynamic range, time mark, scanning speed, pseudo-color map, effect, line correlation

5.4.2 M mode image optimization

Gain

Resume Adjust the gain of M mode , displays in real time on the image parameter area on the left side of the screen.

Effect By increasing the brightness of the gain image, more echo signals can be observed, but at the same time, there will be more noise.

Depth

Resume For adjusting the depth of the image display, the range of image depth can be adjusted by different probes. The depth value is displayed in the image parameter area on the left side of the screen in real time.

Effect The deeper the depth, the wider the observed tissue; the smaller the depth, the shallower the observed tissue. When the depth increases, the frame rate decreases.

Frequency

Resume The emission frequency of the probe can be selected by fundamental frequency or harmonic frequency.

The frequency value is displayed in real time on the image parameter area on the left side of the screen. There are three frequency modes in the fundamental wave or the harmonic wave: "penetrating power", "conventional", and "resolution".

Effect The higher the frequency, the better the near-field resolution, but the penetration force decreases.

Harmonics can enhance the near-field resolution and reduce the noise with low frequency and large amplitude.

Scan speed

Resume Control M mode refresh speed, scan speed value real-time display in the left side of the screen in the image parameter area.

Effect More detailed observations can be obtained, such as changing the scanning speed to detect anomalies in the cycle

Dynamic range

Resume Adjust the contrast of black-and-white images, compress or expand the gray-scale display range.

Effect The larger the dynamic range, the darker the overall image, the smaller the contrast, and the greater the noise.

Acoustical Power

Resume Adjust the power of the probe to emit ultrasound.

Effect The louder power, the overall brightness of the image increases evenly, and the detectable depth also increases. In clinical application, the proper sound power must be selected according to the actual situation and the "ALARA sound power principle".

Colorize map

Resume Color difference is used instead of gray difference to image, that is, grayscale atlas colorization.

Effect Pocket ultrasound system provides four different pseudo-color maps, which are effective for real-time, frozen and movie playback images.

Gray Map

Resume Adjust the black-and-white gray-scale contrast to optimize the image.

Effect Pocket ultrasound system provides 18 effects, and is effective for real-time, frozen and cine-played images.

Time mark

Resume Sets the display state of the time mark on the M image.

Effect It is helpful to identify the cardiac cycle and find the characteristic lesions.

M Soften

Resume Line correlation is the processing of scan lines of M images.

Effect Suppress noise to make image details clearer.

M line

Resume Adjust the position of the M sampling line.

5.5 Parameter adjustment about Color mode

Color Doppler is used to observe the color blood flow and provide the flow direction and velocity information of the blood flow. In general, red indicates the blood flow to the probe, blue indicates the blood flow away from the probe, the brighter the color, the faster the blood flow, the darker the color, and the slower the blood flow rate.

 WARNING	1. Color Doppler flow can only be used as a reference for doctors and can not be diagnosed directly. It is generally compared with other machines or diagnosed by non-ultrasonic means.
	2. This device cannot perform long-term examination of the fetus in Doppler mode.

5.5.1 Color mode image parameter

During C-mode image scanning, the image parameter area on the left side of the screen

provides real-time parameter information, which allows you to adjust the following parameters:

Adjustment method	Parameter term
Control panel adjustment	Gain, depth
SoftKey adjustment	Velocity, deflection, Frequency, Color first, baseline, atlas, Wall filter, Sound Power, afterglow

The Color mode shares the probe sound power of the B mode. When the acoustic power is adjusted, the sound power of the two imaging modes changes synchronously.

Because the Color mode is superimposed by two-dimensional (B) mode and Doppler mode, the two kinds of images change synchronously when magnifying or adjusting the depth.

5.5.2 Color mode image optimization

Gain

Resume To adjust the total sensitivity of the blood flow signal, the gain value is displayed in real time in the image parameter area on the left side of the screen.

Influence If the gain is too high, it will amplify the noise; if the gain is too low, it is easy to lose the blood flow signal.

Velocity

Resume Showing the velocity range of blood flow, for this product, is actually regulating the measurable range of blood flow velocity.

Effect After adjustment, the color blood flow image can be displayed more clearly and accurately.

A lower velocity range should be used to measure low velocity blood flow, and a higher velocity range should be used to measure high speed blood flow.

Influence Aliasing is easy to occur when measuring high-speed blood flow using a lower velocity range.

If the speed scale is too high, it will result in the loss of smaller blood flow signals.

Steer

Resume Used to tilt left and right color blood flow images to obtain more information without moving the probe.

Effect Changing the incident direction of the acoustic beam in color mode, thus changing the angle between the acoustic beam and the direction of blood flow, is only effective for the linear array probe.

Wall filter

Resume The low frequency noise caused by vessel wall vibration is filtered out to display the image information effectively. This function is used to adjust the cut-off frequency of the wall filter in Q70 pocket ultrasonic system.

Effect May cause loss of blood flow signals.

Color frequency

Resume Toggles the probe frequency in Doppler mode.

Effect The higher the frequency, the higher the resolution and sensitivity, but the lower the penetration force.

Persistence

Resume The B images of adjacent frames are averaged to optimize the images.

Effect	Reduce the image noise, optimize the image, make the image more delicate, may cause the loss of specific information.
Priority	
Resume	Used to set the level of blood flow display, select the preferred black-and-white or color blood flow display.
Effect	Large value, priority display color image, small value, priority display black-and-white image.
Map	
Resume	Color image display effect parameters, according to the need to switch different atlas can get more comprehensive blood flow information.
Influence	This function is effective for real-time, frozen and movie playback images.
Invert	
Resume	Set the display mode of Color mode, turn over the color ruler when it is turned on, and change the display mode of blood flow on the image.
Influence	This function is effective for real-time, frozen and movie playback images.
Acoustical Power	
Resume	Adjust the power of the probe to emit ultrasound.
Effect	The louder power increases the overall brightness of the image evenly, and the detection depth also increases.
Influence	In clinical application, proper sound power should be selected according to the actual situation and ALARA sound power principle.

5.6 Parameter adjustment about Power mode

Power Doppler mode is used to show the density and energy information of red blood cells in blood flow for a certain period of time, and to express it by color of different luminance, to provide perfusion information of blood flow, but not to provide information of velocity.

5.6.1 Power mode image parameter

During Power mode image scanning, the image parameter area on the left side of the screen provides real-time parameter information, which allows you to adjust the following parameters:

Adjustment method	Parameter term
Control panel adjustment	Gain, depth
SoftKey adjustment	Velocity, Frequency, Color first, dynamic range, atlas, Wall filter, Sound Power, afterglow

The Power mode shares the probe sound power of the B mode, When the acoustic power is adjusted, the sound power of the two imaging modes changes synchronously.

Because the Color mode is superimposed by two-dimensional (B) mode and Doppler mode, the two kinds of images change synchronously when magnifying or adjusting the depth.

5.6.2 Power mode image optimization

Because of the same Doppler color imaging, most of the image parameter adjustment items in Power mode are consistent with Color mode. Therefore, the following is just a introduction of the image parameters independently adjusted in Power mode.

Gain

Resume	Adjusting the total sensitivity of the blood flow energy signal, the gain value is displayed in real time in the image parameter area above the screen.
--------	---

Effect If the gain is too high, it will amplify the noise; if the gain is too low, it is easy to lose the blood flow signal

Map

Resume Color image display effect parameters.

Effect The energy map provides perfusion information of the image and is sensitive to low-speed blood flow.

Dynamic range

Resume Controls how the echo intensity is converted into a color signal.

Effect After adjusting, it has greater sensitivity to the low energy signal, and increases the display range of the signal.

Steer

Resume Used to tilt left and right color blood flow images to obtain more information without moving the probe.

Effect Changing the incident direction of the acoustic beam in color mode, thus changing the angle between the acoustic beam and the direction of blood flow, is only effective for the linear array probe.

5.7 Parameter adjustment about PW mode

PW mode (spectral Doppler mode) is used to provide the information of blood flow direction and velocity. The transverse axis of the spectrum pattern represents the time and the longitudinal axis indicates the Doppler frequency shift.

PW mode has the function of distance gating, which can show the velocity, direction and nature of local blood flow at a certain depth.



CAREFUL

The timing of PW mode is not consistent with that of B/C mode, so it is impossible to move the probe to change the position of measurement when entering PW mode.

5.7.1 PW mode image parameter

During PW mode image scanning, the image parameter area on the left side of the screen provides real-time parameter information, which allows you to adjust the following parameters:

Adjustment method	Parameter term
Control panel adjustment	Gain, depth
SoftKey adjustment	Speed, baseline, deflection, quick correction angle, flip, SV, wall filter, frequency, dynamic range, volume, recording range, pseudo-color map, sound power, time mark, automatic calculation, automatic calculation parameters.

5.7.2 PW mode image optimization

Frequency

Resume Switching the probe frequency in Doppler mode, the frequency value is displayed in the image parameter area on the left side of the screen in real time.

Effect The higher the frequency, the higher the resolution and sensitivity, but the lower the penetration force.

Trace Area

Resume Change the Trace Area between Above, Below and All.

Auto Calculation

Resume Set auto calculation on and off.

Auto Calculation parameters

Resume Set PS, ED, MD, PV, TAMAX, PPG, MPG, HR, VTI, RI, DT, AT, S/D, PI, D/S auto calculation parameters.

Automatic calculation and of parameters automatic calculation

Resume The spectrum Doppler waveform is recorded and the parameters are calculated. The results of the automatic spectrum calculation will be displayed in the measurement window in real time.

Influence The heart rate value obtained by automatic spectrum calculation may have some deviation. If you want to obtain accurate heart rate value, please choose manual measurement to obtain.

Dynamic range

Resume The amount of information that represents the conversion of echo intensity into grayscale gradient spectrum.

Effect Corresponding to the adjustable contrast range of the image, the larger the dynamic range, the richer the level of image display and more information, but the noise will also increase.

Influence This feature is valid for real-time, frozen, and movie playback images.

Audio

Resume Controls and adjusts the output audio size generated by spectrum Doppler.

Effect Combined with the volume signal, we can judge the blood flow state and nature more effectively.

Scanning speed

Resume Controls the refresh speed of PW mode.

Effect More detailed observations can be obtained, such as changing the scanning speed to detect anomalies in the period.

Acoustical Power

Resume Adjust the power of the probe to emit ultrasound.

Effect The louder power increases the overall brightness of the image evenly, and the detection depth also increases.

Influence In clinical application, proper sound power should be selected according to the actual situation and ALARA sound power principle.

Gain

Resume Adjusting the output signal size of the spectrum map, the gain value is displayed in the image parameter area on the left side of the screen in real time.

Effect By increasing the brightness of the gain image, more echo signals can be observed, but at the same time, there will be more noise.

Gray Map

Resume Adjust the black-and-white gray-scale contrast to optimize the image.

Effect Pocket ultrasound system provides 18 effects, and is effective for real-time, frozen and cine-played images.

Baseline

Resume The area where the speed is zero is shown on the spectrum map

Effect	The requirements of the speed detected at different parts are adjusted, so that the display of the blood flow is more clear and the aliasing is eliminated. A positive value shows a larger range below the baseline and a negative value shows a larger range above the baseline.
--------	---

Quick Angle

Resume	The correction angle is adjusted rapidly by 60 degrees step, and the angle value is displayed on the right side of the spectrum map in real time.
--------	---

Influence	This feature is valid for real-time, frozen, and movie playback images.
-----------	---

Angle

Resume	Adjusting the measurement speed and the actual speed as close as possible, is a kind of correction angle.
--------	---

When adjusting the angle, the angle value is displayed on the right side of the spectrum map in real time.

Influence	This feature is valid for real-time, frozen, and movie playback images.
-----------	---

SV

Resume	Adjusting the position and width of the pulse Doppler sampling volume gate, the current SV value is displayed in real time in the image parameter area on the left side of the screen.
--------	--

Effect	When the sampling gate is small, the obtained result is more accurate, and when the sampling gate is large, the information range obtained is larger.
--------	---

Wall filter

Resume	It is used to adjust the cut-off frequency of the wall filter in Q70 pocket ultrasonic system, and to filter the low frequency noise caused by the vibration of the vessel wall so as to display the image information effectively. Wall filter values are displayed in real time in the image parameter area on the left side of the screen.
--------	---

Influence	May cause Losing of signals about blood flow velocity.
-----------	--

PW Steer

Resume	Change the incident direction of the acoustic beam in PW mode, so as to change the angle between the acoustic beam and the direction of blood flow.
--------	---

Effect	Get more information without moving the probe.
--------	--

Time mark

Resume	Sets the display state of the time flag on the PW image.
--------	--

Effect	It is helpful to accurately locate the time information of special points and identify the characteristic lesions in the fluctuation cycle.
--------	---

Influence	This feature is valid for real-time, frozen, and movie playback images.
-----------	---

Invert

Resume	Turn on this function to flip the spectrum.
--------	---

Influence	This feature is valid for real-time, frozen, and movie playback images.
-----------	---

6 Measure

The operation of measurement can be divided into conventional measurement and applied special measuring package.

 CAREFUL	1. All unsaved data will be lost by shutting down during the measurement process.
	2. During the measurement process, all measurement information on the image will be deleted and the conventional measurement data will be lost once the frozen state is lifted.
	3. A change in mode clears the conventional / applied special measurement data on the screen.
	4. Don't do meaningless measurements.

6.1 Conventional measure

6.1.1 2D Conventional measure

2D conventional measurements are suitable for regular measurements of 2D images such as B, Color, Power and so on. The items of measurement are as follows:

Measure item	Function
Distance	Measure the distance between two points on an ultrasonic image.
Angle	Measured the angle between the two intersecting planes on the ultrasonic image.
Area	Measure the area and perimeter of an enclosed area on an ultrasonic image.
Three distance volume	Measure the volume of the target object.
Recording length	Measure the length of a curve on an ultrasonic image.
Recording area	Measure the area and perimeter of a closed curve area on the ultrasound image.
Length ratio	Measure the length of the two lines on the ultrasonic image and calculate the ratio.
Area ratio	Measure the area of two enclosed areas on ultrasonic images and calculate the ratio.
Histogram	Measure the gray distribution of ultrasonic echo signal in a closed area of ultrasonic image.

6.1.2 Conventional measure in M mode

M mode measurements are as follows:

Measure item	Function
Distance	Measure the distance between any two points on a vertical line at a given time.
Time	Measure the time interval between two points on the M image.

Measure item	Function
Gradient	The average slope between two points is calculated by measuring the distance and time of the two points.
Heart rate	On M cardiogram, the interval between two cardiac cycles was measured and the heart rate was calculated.

6.1.3 Conventional measure in Doppler mode

PW mode measurements are as follows:

Measure item	Function
D speed	On Doppler images, the velocity and pressure difference at some point in the Doppler spectrum waveform are measured.
PS/ED	The velocity (PS) of the systolic peak point and the velocity (ED) of the end diastolic phase were measured on the blood flow waveforms in Doppler images and their pressure difference and resistance index RI, ratio were calculated.
D trace	The clinical parameters such as velocity, pressure difference, index and so on were obtained by depicting the Doppler spectrum waveforms of two cycles.

6.2 Special measuring package

This product provides the following application measurement capabilities:

- Conventional measurement
- Abdominal application measuring package
- Obstetrical application measuring package
- Gynecological application measuring package
- Cardiac application measuring package
- Small organ application measuring package
- Neural application measuring package

7 Cineloop/annotation/body mark

During image scanning, freeze the image by pressing the freeze key. After the image freezes, the probe stops the sound output, leaving all images and image parameters unchanged.

Image freeze state, press the freeze key will thaw the image, the system continues to scan the image.

7.1 Cineloop

After the image freezes, the system supports movie playback and editing functions. At the same time, it supports magnification, post-processing, measurement, annotation, adding body mark and so on.

Pocket ultrasound system supports manual playback and automatic playback; automatic and manual playback can be switched between each other.

7.1.1 Cineloop playback

The B mode and M mode cineloop will be played at the same pace.

7.1.2 Save Cineloop

In the image freeze state, click [Save Cine] in the Soft Key area. After you save the cineloop, you can view it locally.

7.2 Annotation

It is often necessary to add comments to ultrasound images during diagnosis. Pocket ultrasound system supports two annotation types: typing characters and indicating arrowheads.

7.3 Body mark (for Windows version)

The body position of the probe and the position of the probe scanning direction are indicated by the body mark, which can help to explain the image.

8 Probe

8.1 Probe description

8.1.1 Probe type

For model Q70, support the replacement of the probe:

- C-Convex array (C50, C60)
- M-Microconvex array (C15)
- L-Linear array (L40, L25)
- E-Endocavitary array (C10)
- P-Phased array (P20)

For model Q31, Q32, Q33, Q34, Q37, Q38:

Q31: L-Linear array(L40)

Q32: C-Convex array(C50)

Q33: M-Microconvex array(C15)

Q34: P-Phased array(P20)

Q37: C-Convex array(C60)

Q38: L-Linear array(L25)

For model Q51, Q52, Q53:

Q51: L-Linear array(L40) + C-Convex array(C50)

Q52: L-Linear array(L40) + P-Phased array(P20)

Q53: L-Linear array(L40) + M-Microconvex array(C15)

8.1.2 Probe composition

The Probe is composed of piezoelectric ceramic wafer, acoustic focusing lens and shell.

8.1.3 Probe performance index

The performance indicators of each probe are published as follows:

Table 1 Image performance Indexes

Mode	Order number	Project	Probe model						
			C60	C50	L40	L25	C15	C10	P20
B/M	A	Probe nominal frequency (MHz)	3.5	3.5	7.5	7.5	6.5	6.5	2.8
	B	Deviation between acoustic working frequency and nominal frequency (%)	$\leq \pm 15$	$\leq \pm 15$	$\leq \pm 15$	$\leq \pm 15$	$\leq \pm 15$	$\leq \pm 15$	$\leq \pm 15$
	C	Maximum detection depth(mm)	≥ 170	≥ 180	≥ 60	≥ 60	≥ 60	≥ 60	≥ 170
	D	lateral resolution (mm)	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$	≤ 2 (depth ≤ 40)	≤ 2 (depth ≤ 40)	≤ 2 (depth ≤ 40)	≤ 2 (depth ≤ 30)	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$
	E	Azimuthal resolution (mm)	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$	≤ 1 (depth ≤ 50)	≤ 1 (depth ≤ 50)	≤ 1 (depth ≤ 50)	≤ 1 (depth ≤ 40)	≤ 2 (depth ≤ 80) $\leq 3(80 < \text{depth} \leq 130)$
	F	Azimuthal resolution (mm)	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3	≤ 3
	G	Fade zone(mm)	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8	≤ 8
	H	Transverse geometric position precision(%)	≤ 10	≤ 10	≤ 5	≤ 5	≤ 10	≤ 10	≤ 10

Mode	Order number	Project	Probe model													
			C60		C50		L40		L25		C15		C10		P20	
	I	Longitudinal geometric position precision(%)	≤10		≤10		≤5		≤5		≤5		≤5		≤5	
	J	Perimeter and area measurement deviation(%)	≤±15		≤±15		≤±15		≤±15		≤±15		≤±15		≤±15	
	K	M mode time display deviation(%)	≤10		≤10		≤10		≤10		≤10		≤10		≤10	
Color	L	Service frequency (MHz)	2.5	3.5	2.0	3.5	6.0	7.5	6.0	7.5	5.0	6.0	5.0	6.0	2.0	2.5
	M	Depth of investigation (mm)	≥120		≥120		≥40		≥40		≥40		≥40		≥120	
	N	Relationship between color blood flow image and gray-scale image of the pipe in which it is located	coincide		coincide		coincide		coincide		coincide		coincide		coincide	
	O	Blood flow direction requirement	It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.		It can be correctly identified and there is no aliasing.	
PW	P	Service frequency (MHz)	2.5	3.5	2.0	3.5	6.0	7.5	6.0	7.5	5.0	6.0	5.0	6.0	2.0	3.5
	Q	Depth of investigation(mm)	≥120		≥120		≥40		≥40		≥40		≥40		≥120	
	R	Velocity measurement deviation(%)	≤±20		≤±20		≤±20		≤±20		≤±20		≤±20		≤±20	

Mode	Order number	Project	Probe model						
			C60	C50	L40	L25	C15	C10	P20
	S	Accuracy of position of Vernier in Doppler sampling area	accurate	accurate	accurate	accurate	accurate	accurate	accurate

8.2 Probe cover

In order to reduce the spread of the disease, it is necessary to take some protective measures.

In clinic, we always use ultrasound probe cover to prevent infections.

It is strongly recommended that a qualified and bio-clean probe cover should be used when carrying out cavity inspection.

The probe has to wear a probe protection cover or before the probe is used to examine the human body. Please use the probe protection sheath accepted by the market.



CAREFUL

1. In order to avoid infection, the probe cover or sheath can be used only one time, and broken ones should never be used.
2. The probe sheath, made of natural latex and talc, might cause allergic reactions to some people.
3. Do not use expired probe covers. Check the expiration date of the probe covers before using it.

Operation steps (for reference only):

1. Put coupling agent into the probe cover to get clear images.
2. Ensure sterility when the probe goes into the protective cover. Making the protective cover properly tense to avoid any wrinkles and bubbles, do not over pull the probe cover.
3. To fasten the probe cover with a string for safety concern.
4. Check the protective covers and ensure no broken ones.

8.3 Check up and maintenance

8.3.1 Check up

Please inspect the device carefully after the cleaning and disinfection completed and before starting to use. Only after the device is confirmed to be in good condition can it be put into use again. Otherwise, please consult the manufacturer for repair services or stop using it.

The specific check methods are as follows:

item	Inspection method	Acceptance criteria
Handle	Visually inspect handle cover, probe interface and Magnetic interface	The handle cover shall not be damaged or cracked, and the interface shall be in good condition without deformation or foreign body blockage. It shall be fully dry and no liquid ingress.
Probe lens	Visually inspect the lens surface and the connection of the lens to the sound head cover	The surface of the lens shall not be damaged, cracked, scratched, bulged or discolored. The connection between the lens and the cover must not have cracks.
The cover of Probe	Visually inspect the surface of the probe cover	The surface of the shell shall not be damaged or cracked.
Seal ring	Visually inspect the circle of the sealing ring at the joint of the cover for one	The sealing ring shall not be damaged, discolored and unglued.
The probe interface	Visually inspect the probe interface	The interface is in good condition without deformation and foreign body blockage.
Residue	Visually inspect the probe surface, especially pits and small areas	No residual medical ultrasonic gel, cleaning solution or disinfectant.

Note: Before using the intracavity probe, the operator should immerse the application part into the conductive liquid to ensure that there are no cracks.

Before each use of the intracavity probe, the operator should visually inspect the surface of the probe to ensure that there are no rough surfaces, sharp edges, or protruding corners that may cause injury.

8.3.2 Service life

According to the device design requirement, the service life of the probe is defined 3 years. The raw materials of the device will gradually age during the life cycle. If the device continues to be used beyond its service life, the performance may degradation.

The abnormal use such as Impact and drop, incorrect cleaning and disinfection methods may shorten the actual service life of the device. Therefore, after each cleaning and disinfection and before starting the use, the device must be carefully inspected to confirm that the equipment is in good condition.

 WARNING:	The manufacturer will not be liable for any risk arising from continued use beyond the life of the product.
---	---

8.3.3 Probe maintenance

After each use of the probe, wipe the probe gently and thoroughly with a damp and hot soft cloth dipped in 3.4% saturated acetaldehyde solution.

The probe is a valuable and fragile part, collision or drop is strictly prohibited. When the diagnosis is suspended, it should be placed in the probe box and the instrument should be in a "frozen" state.

Medical ultrasonic coupling agent should be used in diagnosis.

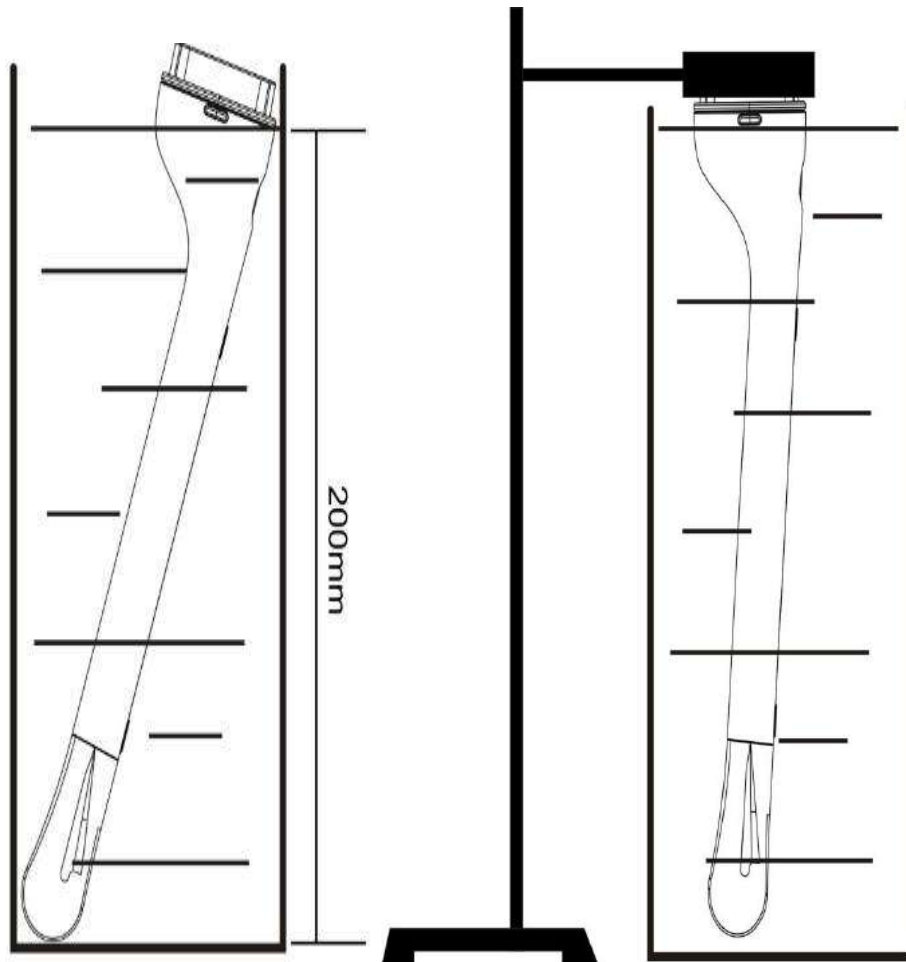


CAREFUL

The probe might be damaged by repeated coupling agent over a long period of time.

Check the probe housing frequently for cracks to avoid damaging the internal components. The immersion of the probe in water or liquid is forbidden .

8.4 Disinfection soaking diagram



(Model C10 intracavity probe)

8.5 Cleaning and disinfection

The ME system composed of this product consists of a host, adapter, data cable, and control software (Android, Windows platforms). The host, data cable, and control software (Android, Windows platforms) need to be cleaned and disinfected.

According to the intended use, the probe is in direct contact with the patient. In order to avoid bacterial infection, after completing a test and turning off the equipment, please clean and disinfect the probe according to the requirements of the instructions. Although the handle does not directly contact the patient, it is an indirect transmission route of pathogenic microorganisms, and the handle needs to be cleaned and disinfected if necessary.

The cleaning and disinfection of the host is the same as the cleaning and disinfection of the probe. Please refer to the probe cleaning and disinfection instructions below for details.



WARNING:

1. Turn off the device after completing each examination, then clean and disinfect the probes as required.
2. Except for the intracavity probe, other probes are not immersion proof devices and are not expected to be immersed in water.
3. It is forbidden to immerse the probe plug in a liquid such as water or an anti - virus solution. Immersion can cause an electric shock or malfunction. If the coupling gel is not completely removed after each detection, it will solidify and reduce the image quality of the probe.
4. Do not place the probe in high temperature environment (over 55°C) during cleaning and disinfection. High temperature may cause the damage of the scanner.
5. It is your responsibility to comply with the manufacturer's instructions and your institution's policy on cleaning and disinfecting medical equipment, Clean and disinfect your equipment in an appropriate manner.
- 6.

CAUTION:

1. During cleaning or disinfection, please wear antibacterial gloves to prevent infection.
2. After disinfection, please use sterilizing liquid to thoroughly remove the residues. Chemical residue may be harmful to human body.
3. If you cannot confirm the efficacy of the disinfectant solution, contact the manufacturer for product information.

● **Cleaning**

Please follow the instructions on the manual:

- a) Wear antibacterial gloves to prevent infection.
- b) Preparing soapy water:
 - i. Preparing soapy water .Take 25 ~ 30g soft soap , add 500 ~ 600mL distilled water(At room temperature), stirring evenly.
 - ii. Rinsing the probe at least with 2L neutral soap water to remove all contaminant.
- c) Wash the handle and probe with soapy water, remove attached stains, until no obvious stains are on the handle and probe.
- d) Rinse with purified water 2~3 times to remove the soapy liquid on the handle and probe.
- e) When cleaning the handle, the handle must be fully assembled with the probe to take advantage of the waterproof effect of the probe seal.
- f) During the cleaning process, it is necessary to ensure that the socket of the probe is out of the liquid to prevent the probe from entering the liquid and damaging the probe
- g) After cleaning the handle and probe, use a sterile cloth or gauze to wipe off the water on the handle and probe surface. It is forbidden to use heating way to dry the handles and probes.
- h) Polyurethane sponge can be used for cleaning. But it is strictly forbidden to use a brush to clean to avoid damage to the handle and probe.

● **Low-level disinfection**

The low-level disinfection is only suitable for disinfection of probes and handles used on the **body surface**.

- a) Use a medical cotton ball dipped in 75% medical grade alcohol to gently wipe the

-
- handle and probe back and forth, keeping the alcohol for 10 minutes.
- b) When disinfecting the handle, the handle must be properly assembled with the probe to take advantage of the waterproof effect of the probe sealing ring.
 - c) After disinfection, dry the handle and probe with a sterile cloth or gauze, and then let the alcohol on the handle and probe surface evaporate naturally. It is forbidden to drying the handle and probe using heat.
 - d) Check the handle and probe carefully, and use it only if they are in perfect condition. The specific inspection method shall be operated in accordance with the guidelines in 7.3.1.
 - e) Precautions for the disinfectant: For the dilution and concentration, disinfection method, and use process, please refer to the instructions on the concentration of the disinfectant and the disinfection method in the instructions for use provided by the manufacturer.

- High-level disinfection

For semi-critical use of **intracavity probe (C10)**, high-level disinfection methods must be used.

- a) Immerse the probe in a 0.55% Phthalaldehyde disinfectant solution, and soak it at room temperature (18~26°C) for 12~45 minutes . During the disinfection process, it must be ensured that the liquid level does not exceed the fixed slots of the puncture frame on both sides of the probe (in 8.4).
- b) After disinfection, immerse the probe in sterile water to clean and remove residual disinfectant. It needs to be soaked in sterile water 3 times, 1 minute each time, and replace with new sterile water after each soaking. During the cleaning process, make sure that the probe cable and plug are out of the liquid;
- c) After cleaning, dry the probe with a sterile cloth or gauze, or place it in a well-ventilated area to let it dry completely. Do not dry the probe;
- d) Check the probe carefully. Only the probe that is in perfect condition can be used. The specific inspection method is described in accordance with the guidelines in 8.3.1.
- e) Precautions for disinfectant: For dilution and concentration, disinfection methods, and use process, please refer to the instructions for disinfectant concentration and disinfection method in the instructions provided by the manufacturer.

Declaration: the above cleaning and disinfection methods have been confirmed by professional testing institutions, which is safe and effective. The operator can rest assured to use.

 WARNING:	1.	It is strictly prohibited to immerse the handle and probe (except the front end of the probe in the cavity) into any type of liquid or detergent.
	2.	No liquid of any kind is allowed to enter the handle and probe.
	3.	It is strictly forbidden to disinfect the handle and probe with gas or heating.
	4.	Do not immerse the probe socket in the solution, although the probe surface is waterproof but only the probe head. Please use medical ultrasonic couplant carefully and clean and disinfect the probe surface
	5.	Equipment failure, do not repair without authorization, must consult the company for after-sales service.
Caution:	1.	The probe must be cleaned after each use.
	2.	Probes should not be cleaned with a surgical brush. Even a soft brush may damage the probe. Use only soft material such as soft cloth, polyurethane sponge.
	3.	Multiple disinfection may lead to degradation of the safety and performance of the probe, and the probe performance should be checked regularly.
	4.	After disinfection, check whether the probe appearance is cracked or damaged. Include seals that are visibly corroded, discolored, dented, or cracked. If it is damaged, please stop using it and contact our customer service staff or your local representative.

■ After cleaning and disinfection, the following items need to be checked:

Inspection items	Inspection methods	Acceptance criteria
lens	Visually inspect the surface of the lens and the connection	The surface of the lens must not have any damage or cracks;
shell	Visually inspect the surface of the shell	There should be no cracks at the
Shell connection point	Visually inspect the connection	The surface of the shell shall not
residue	Visually inspect the surface of the probe	There shall be no cracks or
Surface inspection of intracavity probe	The operator immerses the probe application part into the	There must be no residual cleaning agents or disinfectants
Surface inspection of intracavity probe	The operator visually inspects the surface of the probe	No cracks allowed

8.6 Disassembly and assembly (only for model Q70)

When the operator needs to replace another type of probe to perform a new check on the patient or replace a sterilized probe for a new patient check during operation, the equipment needs to be disassembled and assembled.

The specific operation steps for disassembling and assembling equipment are as follows:

- a) To make sure that the device is off or frozen, it is recommended to shut down the device.
- b) Clean and disinfect the handle and probe. Please refer to section 8.4 Cleaning and Disinfection
- c) Remove the handle and probe. When disassembling, pinch the protruding part of the probe shell surface with your fingers, and carefully pull out the probe. Remember: the disassembled probe and the disinfected probe should be placed separately to prevent the disinfected probe from being contaminated.
- d) Disinfect the removed handle and probe. The disinfection operation is carried out separately in accordance with the guidelines for 8.4 low-level disinfection and high-level disinfection of cleaning and disinfection.
- e) Assemble equipment. Align the connection end of the sterilized probe with the corresponding port of the handle, and carefully push it into place. Remember: the handles and probes that have just been disinfected are allowed to be reassembled only after they are fully dried.
- f) The equipment must be carefully inspected after assembly. The specific inspection shall be operated in accordance with the guidelines in 8.3.1.
- g) The device can be used again only after that it is confirmed in perfect condition.



WARNING:

1. Cleaning and disinfecting handle and probe must be very careful, avoid by all means into liquid! Otherwise, there is a risk of equipment damage, operator and patient electric shock.
2. Do not reassemble the disassembled equipment until it is fully dried.
3. It is forbidden to put the equipment into use before it is confirmed intact.

9 Puncture guide

9.1 Enter or exit puncture mod

- Under the Windows platform, in the SoftKey area, click B mode [Image Parameter Settings], and select [puncture (on / off)].

Set [Bracket] for quick calibration.

Set [guide line], depending on needle selection, A, B, and ALL.

Set [linetype], have thick, medium, thin.



WARNING:

1. The guide leads must be calibrated before each puncture.
2. The frozen is not allowed at the time of puncture.
3. If the puncture needle is not consistent with the position of the puncture guide lead, do not puncture.

- Exit puncture guiding function
- The system is in the puncture status. Click[Exit] to exit the puncture status.

9.2 Puncture lead calibration

Put the biopsy guide and Probe Acoustical lens under water.

Make sure the rubber of the Probe is above the water.

Click [calibrate] to align the needle with the puncture guide line by adjusting the “position” “angle” “+” and “-”.

After coincident, save the calibrated puncture guide wire parameters.

10 DICOM

DICOM stands for Digital Imaging and Communication Standard. The optional DICOM3.0 related functions of this system are:

- DICOM basic functions: DICOM connection verification, DICOM storage, WorkList, MPPS
- The IT network connected to DICOM must comply with the TCP/IP protocol, otherwise images cannot be transmitted.
- In DICOM, the image transmission end and image reception end must be in the same network segment, otherwise the graphics cannot be transmitted.

Explanation: If the IT network fails during the transmission of DICOM, it will result in image transmission errors or inability to transmit images. It is necessary to reconnect to the IT network before transmission. If reconnecting to the IT network still does not work, it is necessary to replace it with another IT network that complies with the TCP/IP protocol.

Disclaimer: The connection between PEMS and IT networks containing other devices may pose previously unidentified risks to patients, operators, and third parties;

The responsible party should identify, analyze, evaluate, and control these risks;

Subsequent modifications to the IT network may introduce new risks and require supplementary analysis;

- The changes to IT network include:
 - IT - Network configuration changes;
 - New items connected to IT network;
 - Items with interrupted IT network connection;
 - Update of devices connected to IT network;
 - The upgrade of devices connected to the IT network is verified for compliance by checking the accompanying documents.
- The standard workflow for DICOM is as follows:
 - DICOM presets (local network presets, DICOM local presets, DICOM server presets, and DICOM service presets).
 - Verify the connection.
 - DICOM applications (image storage, worklists).

- Abbreviation introduction:

The table below lists the abbreviations used in this chapter for reference.

abbreviation	English description	Chinese description
DICOM	Digital Imaging and Communications in Medicine	医学数字图像传输标准
AE	Application Entity	应用实体，各种DICOM 服务主要通过应用实体来实现
SCU	Service Class User (DICOM client)	服务类提供者
SCP	Service Class Provider (DICOM server)	服务类使用者

10.1 DICOM preset

10.1.1 DICOM local preset

Set the local DICOM service properties:

1. Click check the logo in the upper left corner of the main screen to open the preset menu.
2. Click the [DICOM Local] option, and the interface appears as follows:

The screenshot shows the 'DICOM Local' preset configuration window. The sidebar on the left contains the following options: System Preset, Image Preset, Exam Preset, System Upgrade, DICOM Local (highlighted), DICOM Server, DICOM Service, and Exit. The main configuration area, titled 'Localhost DICOM Service Property', includes the following fields:

- AE Title:** CALLING
- Port:** 104
- Package Size (byte):** 16384

An 'Apply' button is positioned at the bottom right of the configuration area.

3. Preset of local DICOM service attributes:

The name of the	Instructions
AE Title	The name of the applied entity of the ultrasound system. The AE Title here must be the same as the AE Title of the ACCEPTABLE SCU set on the server.
port	The local port must be consistent with the server port.
Package size (bytes)	Maximum PDU packet size. The value ranges from 16384 to 65536. The default value is 32768.
application	Save this setting.

Description:

AE Title must be the same as the AE Title value of the SCU set in the server (PACS/RIS/HIS). For example, if the Printer's AE Title is set as Printer, set the ACCEPTABLE SCU's AE Title as Machine. Then the AE Title in the figure above must be changed to Machine (that is, it means the ultrasonic Machine is SCU), and the AE Title must be Printer when setting the printing service.

10.1.2 DICOM server preset

Add and delete the DICOM server and set the name and IP address of the server:

1. Click check the logo in the upper left corner of the main screen to open the preset menu.
2. Click [DICOM Server], the interface is as follows:

The screenshot shows the 'DICOM Server' preset interface. On the left is a sidebar with buttons: System Preset, Image Preset, Exam Preset, System Upgrade, DICOM Local, DICOM Server (highlighted with a mouse cursor), DICOM Service, and Exit. The main area is titled 'Preset' and contains two sections. The 'Device' section has two input fields: 'Device' and 'IP address', with 'Add' and 'Ping' buttons below them. The 'Device List' section on the right contains a table with the following data:

No.	Device	IP address
1	SS	192.168.2.1

A 'Delete' button is located at the bottom right of the 'Device List' section.

3. Perform server provisioning:

The name of the	Instructions
Device name	Name of the device that supports the DICOM service.
The IP address	Network address of the remote server.
Ping	Press Ping to confirm whether the device is connected.
add	Add a server to the server list.
delete	Deletes the selected server from the server list.

Description:

If the server name is the same as a record already in the DICOM server list, the system will prompt an error message

"Server name", click [OK] and enter a new name.

10.1.3DICOM service preset

Open the preset menu and click [DICOM Service] to set the properties of DICOM service.

10.1.3.1 Storage Service Provisioning

1. The Storage Service page is displayed. [Preset] → [DICOM Service] → Storage service.
2. Select the device name. The device to be selected is from the preset DICOM server (for details, see "10.1.2 DICOM Server Preset"). Enter AE Title and port as required.
 - Click [Add] to add the service to the service list.
 - Select a service in the service list, modify the value in the parameter interface, and click [Update] to update the corresponding parameter in the service list. Click [Cancel] to cancel the change;
 - Select a service in the service list and click [Delete], the service will be deleted.
 - Select a service in the service list and click [Set Default Server]. Then the server is the default server of the service.
3. Select a service in the service list and click [Verify] to verify whether the connection is normal.
4. Click [Apply] to save the Settings.

Preset

System Preset
Image Preset
Exam Preset
System Upgrade
DICOM Local
DICOM Server
DICOM Service
Exit

Storage Service

Work List

MPPS

Device

SS

Service Name

SS-st

Add

Cancel

Update

AE Title

Port

104

No.	Device	Service Name	AE Title	Port	Default

Delete

Default

Verify

Verify Undo!

DICOM storage service parameter Settings:

The name of the	instructions
Device name	After the service is set on the DICOM Server Preset page, the device name will be displayed in the drop-down list and the configured storage server will be selected.
DICOM service name	The default value is server-storage, which can be changed.
AE Title	Application entity name. The name of the application entity must be consistent with that of the storage server.
port	Communication port, DICOM Common port 104 by default. Here the port should be connected to storage The settings on the server are consistent.
add	Add the DICOM service to the service list.
cancel	Cancel the modified data Settings.
update	Select the item in the service list and modify the value in the parameter interface. Click [Update] to update the parameter in the service list.
delete	Deletes a service from the service list.
Setting the Default Server	Select an item from the server list and click [Set Default Server] to set the default server.
validation	Verify the normal connection of two DICOM application entities at the application layer.
application	Save the Settings.

10.1.3.2 Worklist service preset

1. Enter the "Print Service" page (as shown below): [Preset] → [DICOM Service] → [Work List].
2. Select the device name. The device to be selected is from the preset DICOM server (for details, see "10.1.2 DICOM Server Preset"). Enter AE Title and port as required.
 - Click [Add] to add the service to the service list.
 - Select a service in the service list, modify the value in the parameter interface, and click [Update] to update the corresponding parameter in the service list. Click [Cancel] to cancel the change;
 - Select a service in the service list and click [Delete], the service will be deleted.
 - Select a service in the service list and click "Set Default Server". Then the server is the default server of the service.
3. Select a service in the service list and click [Verify] to verify whether the connection is normal.
4. Click [Apply] to save the Settings.

The screenshot shows the 'Preset' interface for the 'Work List' service preset. The interface is divided into a sidebar on the left and a main area on the right.

Sidebar:

- System Preset
- Image Preset
- Exam Preset
- System Upgrade
- DICOM Local
- DICOM Server
- DICOM Service
- Exit

Main Area:

At the top, there are tabs for 'Storage Service', 'Work List' (selected), and 'MPPS'.

Below the tabs, there is a form for adding a new service:

Device	SS	Service Name	SS-wl	Add Cancel Update
AE Title		Port	104	
Scheduled Station AE Title				

Below the form, there is a table showing the list of services:

No.	Device	Service Name	AE Title	Port	Default

At the bottom of the main area, there are buttons for 'Delete', 'Default', 'Verify', and 'Verify Undo!'.

Worklist Service and Parameter Setting Project Description:

The name of the	Instructions
Device name	After the service is set on the DICOM Server Preset page, the device name will be displayed in the drop-down list and the configured storage server will be selected.
DICOM service name	The default value is server-storage, which can be changed.
AE Title	Application entity name. The name of the application entity must be consistent with that of the storage server.
Port	Communication port, DICOM Common port 104 by default. Here the port should be connected to storage The Settings on the server are consistent.
Schedule device AE Title	Set AE Title for the scheduled device.
Increase	Add the DICOM service to the service list.
Cancel	Cancel the modified data Settings.
Update	Select the item in the service list and modify the value in the parameter interface. Click [Update] to update the parameter in the service list.
Delete	Deletes a service from the service list.
Setting the Default Server	Select an item from the server list and click [Set Default Server] to set the default server.
Validation	Verify the normal connection of two DICOM application entities at the application layer.
Application	Save the Settings.

Description:

If this parameter is set on the Worklist server, the AE Title added during the Worklist service configuration must be the same as that set on the Worklist server. For example, when the remote server sets the reservation check record, AE Title is set to Q70, Q31, Q32, Q33, Q34, Q37, Q38, Q51, Q52, Q53 (indicating that the reservation check is assigned to Q70, Q31, Q32, Q33, Q34, Q37, Q38, Q51, Q52, Q53). Then, when configuring the ultrasound machine, AE Title of the local machine and AE Title of the reservation device must be set to Q70, Q31, Q32, Q33, Q34, Q37, Q38, Q51, Q52, Q53.

10.1.3.3 MPPS Service Preset

1. The MPPS page is displayed. [Preset] → [DICOM Service] → [MPPS].
2. Select the device name. The device to be selected is from the preset DICOM server (for details, see "9.1.2 DICOM Server Preset"). Enter AE Title and port as required.
 - Click [Add] to add the service to the service list.
 - Select a service in the service list, modify the value in the parameter interface, and click [Update] to update the corresponding parameter in the service list. Click [Cancel] to cancel the change;
 - Select a service in the service list and click [Delete], the service will be deleted.
 - Select a service in the service list and click [Set Default Server]. Then the server is the

default server of the service.

3. Select a service in the service list and click [Verify] to verify whether the connection is normal.
4. Click [Apply] to save the Settings.

System Preset

Image Preset

Exam Preset

System Upgrade

DICOM Local

DICOM Server

DICOM Service

Exit

Preset

Storage ServiceWork ListMPPS

DeviceSS

Service NameSS-mp

Add

AE Title

Port104

Cancel

Update

No.	Device	Service Name	AE Title	Port	Default
-----	--------	--------------	----------	------	---------

Delete

Default

Verify

Verify Undo!

MPPS service parameter Settings:

The name of the	Instructions
Device name	After the service is set on the DICOM Server Preset page, the device name will be displayed in the drop-down list and the configured storage server will be selected.
DICOM service name	The default value is server-storage, which can be changed.
AE Title	Application entity name. The name of the application entity must be consistent with that of the storage server.
Port	Communication port, DICOM Common port 104 by default. Here the port should be connected to storage The Settings on the server are consistent.
Add	Add the DICOM service to the service list.
Cancel	Cancel the modified data Settings.
Update	Select the item in the service list and modify the value in the parameter interface. Click [Update] to update the parameter in the service list.
Delete	Deletes a service from the service list.
Setting the Default Server	Select an item from the server list and click [Set Default Server] to set the default server.
Validation	Verify the normal connection of two DICOM application entities at the application layer.
Application	Save the Settings.

10.2 DICOM verification

To verify the connection (optional operation), select the server item in the list in the page of "Storage Service", "Print Service", "Work List", "MPPS" or "Storage Trust" (for details, please refer to "9.1.3 DICOM Service Preset") and click [Verify] to check whether the connection between the two DICOM application entities is normal.

- If the verification succeeds, the connection is normal is displayed in the status bar.
- If no verification response is received within the response time, the system prompts "Connection failed".

The possible causes of connection verification failures include: IP address error, INACCESSIBLE IP address, and remote DICOM

The service is not running, the port is incorrectly configured, and the application entity name is inconsistent.

Description:

Not all SCPs support authentication. Please verify that the SCP supports authentication. If not, authentication fails.

10.3 DICOM application

10.3.1 DICOM image storage

The DICOM storage function is used to send images to one or more DICOM storage servers for remote storage.

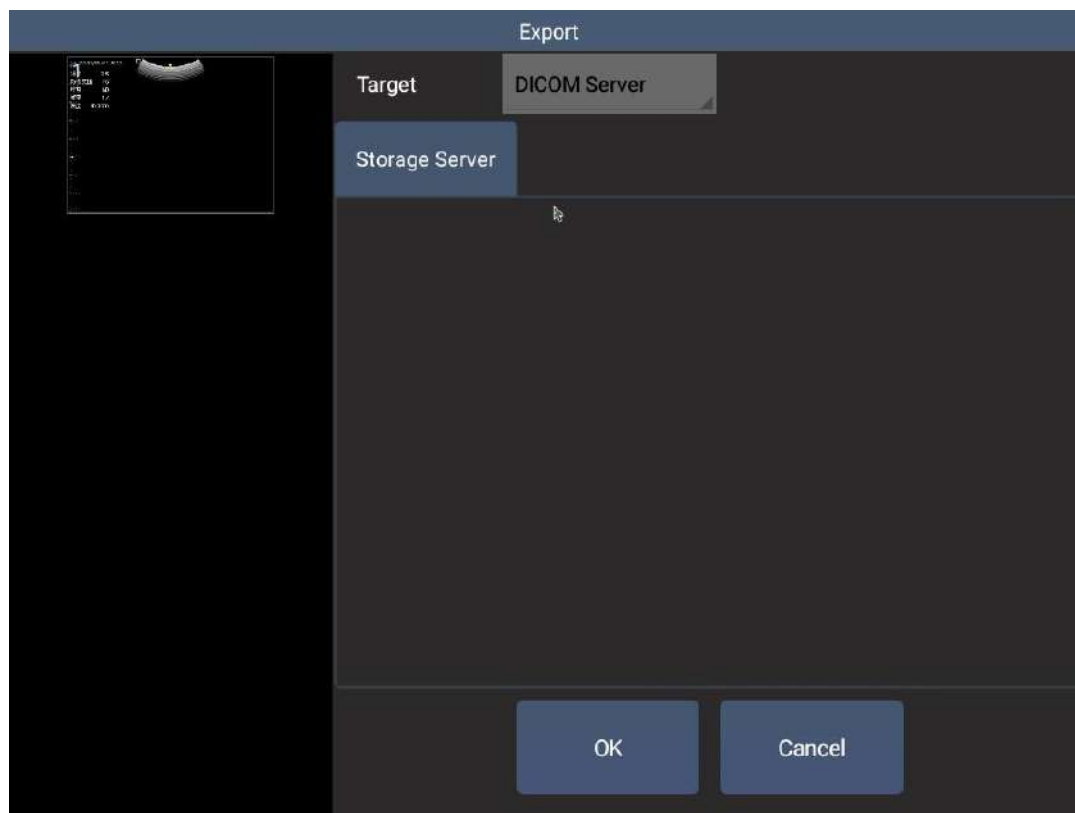
Send stored images in browse/Check main screen:

1. Select the image file:

Click [Patient List] key to open the "Patient List" interface, select an examination record in the patient list, click [Review] key to open the "Browse" interface, select one or more images.

Or in the main screen, select one or more image thumbnails in the thumbnail bar.

2. Click the [Export] button to open the "Export" dialog box as shown below.



3. Select DICOM for Destination, and select the server to store in the Storage Server column.
4. Click [OK].

10.3.2 Worklist service

When the DICOM Worklist server is connected, the query conditions can be set to query the ultrasound examination list from the Worklist server, and the examination can be selected from the query results and the patient information can be directly imported.

■ Query patient information through the worklist server

Press [New Patient] or click [Functions] → [Patient Information] to enter the "Patient Information" interface. → Click [Work List] to enter the "Work List" interface.

-
6. The system automatically sends the query request to the default server, and the patient data that meets the current query conditions will be displayed in the list.

11 Acoustic output description

The contents of this chapter for the entire system (including main unit, probe, accessories and peripherals), in order to provide relevant information to the operator output sound and how to use ALARA control principle of irradiation time and other important safety information. In addition, this chapter also includes information related to the system of acoustic output real-time display.

Please read this chapter carefully before use.

11.1 Biological effect

It is generally believed that the diagnosis with ultrasound is safe. So far, there is no any reports about ultrasonic cause bodily injury.

In spite of this, we can not arbitrarily believe all the ultrasonic is absolutely safe. Studies have shown that ultrasound with high intensity is harmful to human body.

In recent years, with the rapid development of ultrasound technology, people are increasingly concerned about the application of ultrasonic technique in diagnosis and may lead to the potential risk of biological effect.

11.2 Caution use declaration

Although there is no confirmation of diagnosis by ultrasonic instrument can cause the patient to produce biological effect, but there are still likely to prove the biological effects of existing applications in the future. So we must be careful to use ultrasound, exert their clinical effect in the premise to obtain the necessary clinical information, avoid long time using high intensity ultrasound the.

11.3 ALARA principle (As Low As Reasonably Achievable)

ALARA is the guiding principle for the use of diagnostic ultrasound. Sonographers and other qualified ultrasound users, using good judgment and insight, determine the exposure that is "as low as reasonably achievable." There are no set rules to determine the correct exposure for every situation.

The qualified ultrasound user determines the most appropriate way to keep exposure low and bioeffects to a minimum, while obtaining a diagnostic examination.

Users must be responsible for the safety of patients, to the use of ultrasonic, the output power of ultrasonic to choose according to the principle of ALARA.

Other information about the ALARA principle and the potential biological effects of ultrasound, can see the Research Institute of medical ultrasound (AIUM) published the "medical ultrasound safety" file.

There are a number of variables which affect the way in which the output display indices can be used to implement the ALARA principle. These variables include index values, body size, location of the bone relative to the focal point, attenuation in the body, and ultrasound exposure time. Exposure time is an especially useful variable, because it is controlled by the user. The ability to limit the index values over time supports the ALARA principle.

The pocket ultrasound system imaging mode used depends upon the information needed. 2D imaging provides anatomical information, while Color imaging provides information

about blood flow. Understanding the nature of the imaging mode being used allows the sonographer to apply the ALARA principle with informed judgment. Additionally, the Probe frequency, system setup values, scanning techniques, and operator experience allow the sonographer to meet the definition of the ALARA principle. The decision as to the amount of acoustic output is, in the final analysis, up to the system operator. This decision must be based on the following factors: type of patient, type of exam, patient history, ease or difficulty of obtaining diagnostically useful information, and the potential localized heating of the patient due to Probe surface temperatures. Prudent use of the system occurs when patient exposure is limited to the lowest index reading for the shortest amount of time necessary to achieve acceptable diagnostic results.

Although a high index reading does not mean that a bioeffect is actually occurring, a high index reading should be taken seriously. Every effort should be made to reduce the possible effects of a high index reading. Limiting exposure time is an effective way to accomplish this goal.

11.4 MI/TI description

11.4.1 Basic knowledge of MI and TI

MI: An indication of the likelihood of mechanical bioeffects occurring: the higher the MI, the greater the likelihood of mechanical bioeffects.

TI: The ratio of total acoustic power to the acoustic power required to raise tissue temperature by 1°C under defined assumptions.

- MI (Mechanical index):

The mechanical effect is caused by the acoustic wave within the organization micro bubbles, increasing vibration and the results diabrosis, this reaction is called cavitation.

MI said the possibility of pressure cavitation effect, MI value is obtained by the square root of the peak negative pressure divided by the frequency. Therefore, the higher the frequency or peak negative pressure is low, the MI value is smaller, so the possibility of generating cavitation effect is smaller.

$$MI = \frac{P_{r, \alpha}}{\sqrt{f_{awf}} \times C_{MI}}$$

$$C_{MI} = 1 \text{ (MPa} / \sqrt{\text{MHz}} \text{)}$$

When the frequency is 1 MHz and the peak pressure is 1 MPa, the MI value is 1 MI can be considered as a threshold for cavitation. When gas and soft tissue exist at the same time to set the MI value to the low value.

- TI (Thermal index):

TI is determined by the total acoustic power and the tissue temperature rise of 1 degrees Celsius required sound power ratio. In addition, the organizational structure of different temperature is different, so the TI is divided into three categories: TIS (soft tissue thermal index (TIB), and TIC (bone thermal index) skull thermal index).

- TIS: soft tissue thermal index applications, such as the abdomen and the heart

- TIB: the use of bone thermal index, such as the fetus (in late pregnancy), focused on or close to the focus of the acoustic beam in the bone
- TIC: Skull thermal index applications such as pediatric and adult skulls.

WFUMB (World Federation of ultrasound in medicine and Biology) statement: 5 minutes irradiation temperature rise of 4 degrees may cause potential harm to the embryo and fetal tissue.

The smaller the MI/TI, the lower the biological effect.

11.4.2 MI/TI display instructions

TI and MI display on the screen of centre. The operator should monitor these index values in the inspection process, and to ensure that in the premise of effective diagnostic information under the irradiation time and the output value is maintained at the lowest possible level.

The TI and MI values are displayed at any operating conditions, and the step value is not more than 0.2.

TI display items can be set in the prefab, open [the image preset parameter]"B/THI" page, you can see the acoustic output parameters preset, as shown below :



Here you can set the level of TI display items and power levels.

Display accuracy is 0.1.

Be careful If the MI or TI display values are greater than 1, please follow the ALARA principle carefully

11.5 Sound power setting

Acoustical power adjustment

In the frozen state of the image, the ultrasonic energy is not output.

Default settings description

The operator is the most important factor to control the sound output.

The intensity level depends on the acoustic output in the scanning area. In the fetal examination, be especially careful control of acoustic output intensity.

In this system, the user can preset the image parameters. Once the preset change default settings for the original machine becomes invalid. Therefore, the user is responsible for the default settings.

Default setting range

Initial setting range of sound output	10% to 100%
---------------------------------------	-------------

To ensure the acoustic radiation safety of expected users and patients of the Pocket ultrasound system, the maximum sound output for each probe depends on the probe surface temperature rise in the selected mode and the sound output limit specified in the FDA. See "The Sound Output Data" for specific data.

The setting of the initial value of the sound output is only an initial working state established by the manufacturer for the equipment when the product leaves the factory.

The qualified operators will adjust it accordingly according to the individual situation of the patient.

The maximum acoustic output limit depending on the selected mode of the probe surface temperature rise and the provisions of the FDA acoustic output of each probe.

Be careful	When you turn on the scanner, change Probe, set a new patient, the system settings will be the default ones. The user in accordance with the principle of ALARA and meet the FDA 510 (k) Guidance-Track3 limits, the user can through the corresponding increase in the sound power soft menu you can also set the AP value in the preset level.
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The sound output system is based on EN 60601-2-37:2008+A11:2011+A1:2015, FDA 510 (K) GUIDANCE, the diagnostic ultrasound equipment acoustic output measurement standard (NEMA UD-2 2004) , diagnostic ultrasound equipment thermal and mechanical index real-time display standard (AIUM and NEMA UD-3 2004) were measured and calculated. For a definition of terms used in the acoustical output tables, see Appendix C.

11.6 Acoustic power control

Sound output depends on the system operator, the operator should obtain qualified under the premise of effective diagnostic image to reduce the acoustic output. There are three types of operation control and sound output control: direct control and indirect control and receiver control.

- Direct control

The system of direct control of acoustic output through the soft menu area [] sound power project adjusting acoustic output size. But in any mode of the acoustic output maximum value can not exceed the acoustic output limit (MI limit of 2 TI, the limit value is 6, ISPTA.3 limit of 720 mW/cm²).

- Indirect control

Indirect control of acoustic output is mainly caused by the control of image related parameters. These include control operation mode, probe and frequency, focus, depth image and pulse repetition frequency (PRF).

The operating mode determines the ultrasonic beam is scanning and non scanning mode, the thermal effect with M, Doppler, Color are closely related.

The attenuation of the tissue is directly related to the change of the probe and its frequency. The image depth is related to the effective aperture of the probe.

- Receiver control

The receiver (such as gain control, dynamic range, image processing etc.) does not affect the sound output. Therefore, in image optimization, priority should be adjusted to optimize the image receiver control class, followed by direct control and indirect control.

11.7 Acoustic output description

11.7.1 Damping output parameter

In order to determine the relevant parameters of the acoustic output, compared to using a method of ultrasonic system for different frequencies and different depth of focus. This method (also called attenuation method) by measuring the acoustic output. In the water that ultrasonic wave propagation in tissues. Usually 0.3 dB/cm/ MHz average sound intensity attenuation, namely ultrasonic probe send each transmission of a 0.3 dB/MHz cm ultrasonic intensity attenuation, the calculation formula is as follows:

$$I_{atten} = I_{water} \times 10^{(-0.3/10 \times f_c \times z)}$$

11.7.2 Acoustic output limit

In accordance with the FDA requirements of Track 3, the acoustic output limits using the derating (or attenuation) method, as shown in the table below. The use of any probe in any mode of operation, the maximum acoustic output should be listed in the following table limits.

FDA 3 Track maximum sound output limit (attenuation)

Application	I _{spta.3} (mW/cm ²)	I _{sppa.3} (W/cm ²)	or	MI
Other parts (in addition to the eye)	720	≤ 190		≤ 1.9

11.7.3 The difference between the actual MI/TI value and the display value

Factors that contribute to display uncertainty

The net uncertainty of the displayed indices is derived by combining the quantified uncertainty from three sources: measurement uncertainty, system and Probe variability, and engineering assumptions and approximations made when calculating the display values.

Measurement errors of the acoustic parameters when taking the reference data are the major source of error that contributes to the display uncertainty.

The displayed MI and TI values are based on calculations that use a set of acoustic output measurements that were made using a single reference ultrasound system with a single reference Probe that is representative of the population of Probes of that type. The reference system and Probe are chosen from a sample population of systems and Probes taken from early production units, and they are selected based on having an acoustic output that is representative of the nominal expected acoustic output for all Probe/system combinations that might occur. Of course, every Probe/system combination has its own unique characteristic acoustic output, and will not match the nominal output on which the display estimates are based. This variability between systems and Probes introduces an error into displayed value. By doing acoustic output sampling testing during production, the amount of error introduced by the variability is bounded. The sampling testing ensures that the acoustic output of Probes and systems being manufactured stays within a specified range of the nominal acoustic output.

Another source of error arises from the assumptions.

11.8 Uncertainty of measurement

I _{spta}	31.2%
I _{sppa}	30.4%
center frequency (f _c)	2%
Total power (W)	30.1% (5.6% Scan mode and combination mode)
Peak negative pressure(pr)	15.5%

11.9 Reference literature for sound power and its safety

- (1) "Bio-effects and Safety of Diagnostic Ultrasound" issued by AIUM in 1993
- (2) "Medical Ultrasound Safety" issued by AIUM in 1994
- (3) "Acoustic Output Measurement Standard for Diagnostic Ultrasound Equipment, Revision 3" issued by AIUM/NEMA in 2004
- (4) "Standard for real-time display of thermal and mechanical acoustic output

indices on diagnostic ultrasound equipment, Revision 2" issued by AIUM/NEMA in 2004

- (5) "Information for Manufacturers Seeking Marketing Clearance of Diagnostic Ultrasound Systems and Probes" issued by FDA in 2008.
- (6) "Medical electrical equipment - Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment" issued by IEC in 2015.

11.10 Probe surface temperature

EN 60601-2-37:2008+A1:2015 according to the requirements of clause 201.11, the transducer surface temperature was measured under two conditions: transducer suspension in the absence of air circulation environment (Still Air) and probe contact phantom (Method B). The maximum surface temperature and maximum temperature rise of the transducer are listed below:

Table 1 model Q70:

Probe	Test method	Operation mode	Ambient(°C)	Initial temperature (°C)	Final Radiating Surface temp.(TF) and/or Temp.Rise (TR) (°C)
C60	Method B	PW Mode	24.9	24.9	TF=30 TR=5.9
C60	Still Air	PW Mode	24.6	24.7	TF=34.2 TR=9.5
L40	Method B	PW Mode	24.9	25	TF = 31 TR =6.0
L40	Still Air	PW Mode	24.7	25	TF = 35.2 TR =10.2
C15	Method B	PW Mode	24.9	25.1	TF = 31 TR =5.9
C15	Still Air	PW Mode	24.7	25	TF = 35.1 TR =10.1
L25	Method B	PW Mode	24.9	25	TF = 32.1 TR =7.1
L25	Still Air	PW Mode	24.6	24.8	TF = 35.9 TR =11.1
C50	Method B	PW Mode	24.8	24.9	TF=30.5 TR=5.6
C50	Still Air	PW Mode	24.6	24.8	TF=36.3 TR=11.5
C10	Method B	PW Mode	24.9	25.1	TF = 28.4 TR =3.3
C10	Still Air	PW Mode	24.6	24.9	TF = 31.6 TR =6.7
P20	Method B	PW Mode	24.9	25.0	TF =32.9 TR =7.9
P20	Still Air	PW Mode	24.6	25.0	TF = 39.5 TR=14.5

Table 2 model Q31, Q32, Q33, Q34, Q37, Q38:

Probe	Test method	Operation mode	Ambient(°C)	Initial temperature (°C)	Final Radiating Surface temp. (TF) and/or Temp.Rise (TR) (°C)
L40	Method B	PW Mode	24.9	25	TF = 31 TR =6.0
L40	Still Air	PW Mode	24.7	25	TF = 35.2 TR =10.2
C50	Method B	PW Mode	24.8	24.9	TF=30.5 TR=5.6
C50	Still Air	PW Mode	24.6	24.8	TF=36.3 TR=11.5
C15	Method B	PW Mode	24.9	25.1	TF = 31 TR =5.9
C15	Still Air	PW Mode	24.7	25	TF = 35.1 TR =10.1
P20	Method B	PW Mode	24.9	25.0	TF =32.9 TR =7.9
P20	Still Air	PW Mode	24.6	25.0	TF = 39.5 TR =14.5
C60	Method B	PW Mode	24.9	24.9	TF=30 TR=5.9
C60	Still Air	PW Mode	24.6	24.7	TF=34.2 TR=9.5
L25	Method B	PW Mode	24.9	25	TF = 32.1 TR =7.1
L25	Still Air	PW Mode	24.6	24.8	TF = 35.9 TR =11.1

Table 3 model Q51, Q52, Q53:

Probe	Test method	Operation mode	Ambient(°C)	Initial temperature (°C)	Final Radiating Surface temp. (TF) and/or Temp.Rise (TR) (°C)
C50	Method B	PW Mode	24.8	24.9	TF=30.5 TR=5.6
C50	Still Air	PW Mode	24.6	24.8	TF=36.3 TR=11.5
L25	Method B	PW Mode	24.9	25	TF = 32.1 TR =7.1
L25	Still Air	PW Mode	24.6	24.8	TF = 35.9 TR =11.1
L40	Method B	PW Mode	24.9	25	TF = 31 TR =6.0
L40	Still Air	PW Mode	24.7	25	TF = 35.2 TR =10.2
P20	Method B	PW Mode	24.9	25.0	TF =32.9 TR =7.9
P20	Still Air	PW Mode	24.6	25.0	TF = 39.5 TR =14.5

Explanation: When L40 works in PW mode for too long, the maximum temperature of the transducer can reach 41 °C. Therefore, the contact time of the transducer with the body surface should not exceed 30 minutes. Patients can be static adults or pregnant women, and it can be used in small organ (breast, thyroid, etc.), peripheral blood vessels, nerves and other modes.

12 Electromechanical safety standards

The system complies with the EMC test standard IEC 60601-1-2:2020.

Medical Electrical Equipment. General Requirements for Basic Safety and Essential Performance-Collateral Standard. Electromagnetic Compatibility. Requirements and Tests.

 WARNING

1. The use of inappropriate accessories will reduce the performance of the product.
2. The selected adapter should meet the requirements of the IEC 60601-1-2:2020
3. The equipment or system may be interfered with by other equipment even if it meets the emission requirements of the corresponding national standards.
4. Pay attention to electromagnetic environment because product may be subject to electromagnetic field. Keep away from products or facility with strong magnetic waves emission in installation and use, e.g. radio signal tower, high frequency electro tome, NMR device, etc.
5. The device can't produce electromagnetic field interference to other electrical equipment, but it complies with requirement of electromagnetic compatibility standard. Portable and mobile RF communication device may have an impact on it.
6. Do not use this device with other devices around or stacked. If must, observe if it functions well on that condition.
7. Using accessories and cables apart from therapy cables, diagnostic test cables and power line sold as accessories of components may result in the increase of equipment or system emission or decline of noise immunity
8. Following cable types must be applied to ensure compliance with standard of radiation interference and noise immunity.

Cables	Length (m)
Power Cable of Adapter	1.5m

Attention	1.	The use of inappropriate accessories, Probes, and cables may cause the system to be launched with decreased immunity
	2.	This system can not be close to or in contact with other equipment, if it is necessary, it must ensure the normal operation of the system in use.
	3.	This system requires special protection against EMC, and the need for the installation and maintenance of EMC provided in the information environment to meet the following.
	4.	This system is lower than the minimum prescribed amplitude products or minimum operating conditions will lead to incorrect results in physiological signals of patients.
	5.	This equipment should not be used in close proximity or stacked with other equipment. If it must be used close to or stacked, it should be observed to operate properly in the configuration in which it is used.
	6.	Portable and mobile communication devices will affect the performance of the system. See table 1,2,3,4.
	7.	The user shall install and use according to the EMC information provided by the random file.
	8.	Portable and mobile RF communication equipment may affect the Pocket ultrasound system to avoid strong magnetic interference, such as near microwave ovens, elevators, etc.
	9.	Frequency band of emission: 2412MHz~2472MHz Modulation type: DBPSK, DQPSK, BPSK, QPSK ,16QAM, 64QAM Frequency characteristic: 802.11b/802.11g Effective radiated power: Rated output power: 802.11b: 2.30mW/MHz 802.11g: 1.40mW/MHz 802.11n(HT20): 1.00mW/MHz 802.11n(HT40): 0.80mW/MHz RX sensitivity: -95.7dBm@DSSS -74.0dBm@OFDM Frequency band of emission: 5150MHz~5250MHz Modulation type: DBPSK, DQPSK, BPSK, QPSK ,16QAM, 64QAM Frequency characteristic: 802.11a Effective radiated power: Rated output power: 802.11a:1.10mW/MHz 802.11n(HT20): 1.00mW/MHz 802.11n(HT40):0.50mW/MHz Receiving sensitivity: 11a (6-54Mbps): 11dBm 11n20 (MCS0-MCS7):11dBm 11n40 (MCS0-MCS7): 71.3dBm
	10	The guide and manufacturer's statement are detailed in the following table.

Before installing or using the device or system, keep an appropriate distance from radio frequency (RF) sources whenever possible. The sources include but not limit to:

- Radio and TV stations
- Portable and mobile RF communication devices (cell phones, two-way radios, base station, etc.)
- High-frequency surgical units, such as diathermy, electrocautery, argon beam coagulators, etc.
- X-ray, CT, or MRI devices
- These devices are also possible sources of interference as they may emit higher levels of electromagnetic radiation.

- 11 Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.
- 12 Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device or system, including cables specified by the manufacturer. Degradation of the performance of this equipment could result.
- 13 Magnetic and electric fields may interfere with the performance of the device or system. Make sure that all peripheral components operated in the vicinity of the device comply with the relevant EMC requirements. X-ray equipment, MRI devices, radio systems (cellular phones) and so forth, are possible sources of interference because they may emit higher levels of electromagnetic radiation. Verify the performance of the system before use.
- 14 Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 15 This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- 16 This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

Table 1

ESSENTIAL PERFORMANCE

The essential performance of the system may be lost or degraded because of electromagnetic disturbances. For expected degradations and instructions of the basic safety and essential performance maintenance in the case of electromagnetic disturbances, see the table below:

Essential Performance	Degradation Caused by Electromagnetic Disturbances	Essential Performance Maintenance
- Free from noise on a waveform or artefacts or distortion in an image or error of a displayed numerical value which cannot be attributed to a physiological effect and which may alter the diagnosis. - Free from the display of incorrect numerical values associated with the diagnosis to be performed - Free from the display of incorrect safety-related indications. - Free from the production of unintended or excessive ultrasound output. - Free from the production of unintended or excessive TRANSDUCER ASSEMBLY surface temperature - Free from the production of unintended or uncontrolled motion of TRANSDUCER ASSEMBLIES intended for intra-corporeal use.	No degradation	Not Applicable
Complete Essential performance Description: Regardless of whether the subject device is in a normal or electromagnetic interference state, the following essential performance should be maintained: - Free from noise on a waveform or artefacts or distortion in an image or error of a displayed numerical value which cannot be attributed to a physiological effect and which may alter the diagnosis. - Free from the display of incorrect numerical values associated with the diagnosis to be performed - Free from the display of incorrect safety-related indications. - Free from the production of unintended or excessive ultrasound output. - Free from the production of unintended or excessive TRANSDUCER ASSEMBLY surface temperature		

- Free from the production of unintended or uncontrolled motion of TRANSDUCER ASSEMBLIES intended for intra-corporeal use.

Table 2

Guidance and manufacturer's declaration – electromagnetic emissions		
This equipment is intended for use in the electromagnetic environments specified below, and the purchasers or users shall ensure that it is used in these electromagnetic environments.		
Emissions	Compliance	
RF emissions (Radiated) CISPR 11	Group 1 Class A	The Pocket Ultrasound System use RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions (Conducted) CISPR 11	Group 1 Class A	Pocket Ultrasound System is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not Applicable	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Not Applicable	

Table 3

Guidance and manufacturer's declaration – electromagnetic immunity			
This equipment is intended for use in the electromagnetic environments specified below, and the purchasers or users shall ensure that it is used in these electromagnetic environments.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment -guidance
Electrostatic discharge IEC 61000-4-2	± 2 kV, ± 4 kV, ± 6 kV, ± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	± 2 kV, ± 4 kV, ± 6 kV, ± 8 kV contact ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrostatic transient/ burst IEC 61000-4-4	± 2 kV for power supply lines 100 kHz repetition frequency ± 1 kV for input/output lines	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 0.5 kV, ± 1 kV differential mode line-line	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0 % U_T (100 % dip in U_T) for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0 % U_T (100 % dip in U_T) for 1 cycle at 0° 70 % U_T (30 % dip in U_T) for 25/30 cycles at 0° 0 % U_T (100 % dip in U_T) for 250/300 cycle at 0°	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the models / requires continued operation during power mains interruptions, it is recommended that the models / be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m, 50/60Hz	30 A/m, 50/60Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a. c. mains voltage prior to application of the test level.			

IMMUNITY to proximity magnetic field IEC 61000-4-39	8A/m, CW Test frequency: 30kHz 65A/m, PM, 2.1KHz Test frequency:134.2kHz 7.5A/m, PM, 50KHz Test frequency:13.56MHz	8A/m, CW Test frequency: 30kHz 65A/m, PM, 2.1KHz Test frequency:134.2kHz 7.5A/m, PM, 50KHz Test frequency:13.56MHz	/
Conducted RF IEC 61000-4-6	3 Vrms 150kHz to 80MHz 6 Vrms ISM bands and amateur radio bands^a between150kHz to 80MHz	3 Vrms 150kHz to 80MHz 6 Vrms ISM bands and amateur radio bands^a between150kHz to 80MHz	Portable and mobile RF communications equipment should be used no closer to any part of the models /, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = \left[\frac{3.5}{V_1} \right] \sqrt{P}$ $d = \left[\frac{3.5}{E_1} \right] \sqrt{P}$ 80MHz to 800MHz $d = \left[\frac{7}{E_1} \right] \sqrt{P}$ 800MHz to 2.7GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation

Radiated RF IEC 61000-4-3	10 V/m 80MHz to 2.7 GHz	10 V/m 80 MHz to 2.7 GHz	distance in meters(m). ^b Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^c should be less than the compliance level in each frequency range ^d Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
a /The ISM (industrial, scientific and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.			
b /The compliance levels in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2,7 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas. For this reason, an additional factor of 10/3 has been incorporated into the formulae used in calculating the recommended separation distance for transmitters in these frequency ranges.			
c/ Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the / is used exceeds the applicable RF compliance level above, the / should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the /.			
d/ Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Table 4 Recommended separation distances between

Recommended separation distances between portable and mobile RF communications equipment and the model Q7			
The device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the device as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output of transmitter /W	Separation distance according to frequency of transmitter /m		
	150 kHz to 80 MHz $d = [\frac{3.5}{V_1}] \sqrt{P}$	80 MHz to 800 MHz $d = [\frac{3.5}{E_1}] \sqrt{P}$	800 MHz to 2.7 GHz $d = [\frac{7}{E_1}] \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

Table 5 Recommended separation distances between RF wireless communications equipment					
The device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the device can help prevent electromagnetic interference by maintaining a minimum distance between RF wireless communications equipment and the device as recommended below, according to the maximum output power of the communications equipment.					
Frequency /MHz	Maximum Power /W	Distance /m	IEC 60601 Test Level	Compliance Level	Electromagnetic Environment - Guidance
385	1.8	0.3	27	27	RF wireless communications equipment should be used no closer to any part of the device, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $E = \frac{6}{d} \sqrt{P}$ Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitter, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range. Interference may occur in the vicinity of equipment marked with the following symbol: 
450	2	0.3	28	28	
710	0.2	0.3	9	9	
745					
780					
810					
870	2	0.3	28	28	
930					
1720					
1845	2	0.3	28	28	
1970					
2450	2	0.3	28	28	
5240	0.2	0.3	9	9	
5500					
5785	0.2	0.3	9	9	
Note 1: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.					

Table 6

Fundamental characteristics

Scanning mode: the mode of operation of an ultrasonic diagnostic device, including a series of ultrasonic pulses that generate scanning lines that do not follow the same acoustic path.

Scanning mode	Parameter
B mode	Gain: 0-100 tunable Maximal acoustic output: 10-100% tunable Depth: — C50 probe $\geq$ 30cm — C60 probe $\geq$ 30cm — L40 probe $\geq$ 14cm — L25 probe $\geq$ 14cm — C15 probe $\geq$ 14cm — C10 probe $\geq$ 14cm — P20 probe $\geq$ 30cm
M mode	
C mode	
Power mode	
PW mode	

12.1 Appendix A Names and contents of toxic and hazardous substances or elements

Table: Names and contents of toxic and hazardous substances or elements

Toxic or hazardous substances or elements	Toxic or hazardous substances or elements					
	lead (Pb)	mercury (Hg)	cadmium (Cd)	Hexavalent chromium (Cr(VI))	Polybrominated biphenyls (PBB)	Two phenyl ether (PBDE)
Internal wire rod	○	○	○	○	○	○
Probe	×	○	○	○	○	○
Button/Polybrominated biphenyls	○	○	○	○	○	○
Shell(Plastic cement)	○	○	○	○	○	○
PCBA	○	○	○	○	○	○
○: Said the content of toxic and harmful substances in all homogeneous materials in the parts of the SJ/T11363-2006 in the specified limits requires the following. ×: The toxic and harmful substances exceeded the limitation of SJ/T11363-2006 standard in the content of at least one of the homogeneous materials.						

12.2 Appendix B Acoustic output data

The Q70 are configured with multiple probe models, and the probes are replaceable.

The Q31, Q32, Q33, Q34, Q37, Q38, Q51, Q52, Q53 are configured with non-replaceable probes.

Therefore, we chose Q70 with the most complete probe configuration as a representative for testing, covering models Q31, Q32, Q33, Q34, Q37, Q38, Q51, Q52, and Q53.

The meaning of each symbol in the sound output table:

Symbol	Meaning
A	Acoustic attenuation coefficient
A_{aprt}	-12dB Output acoustic beam area
D_{eq}	Equivalent pore diameter
d_{eq}	Equivalent sound beam diameter
f_{awf}	Sound working frequency
I_{pa}	Pulse average sound intensity
$I_{pa,\alpha}$	Average sound intensity after attenuation
I_{pi}	Impulsive sound intensity integral
$I_{pi, \alpha}$	Pulse sound intensity integral
$I_{ta}(Z)$	Time average sound intensity
$I_{ta, \alpha}(Z)$	Decay time average sound intensity
$I_{zpta}(Z)$	Spatial peak time average sound intensity
$I_{zpta, \alpha}(Z)$	Decay time space peak time average sound intensity
MI	Mechanical index
P	output power
P_{α}	Output power after attenuation
P_1	Bounded output power
p_i	Pulse sound pressure square integral
p_r	Peak sparse sound pressure
$p_{r,a}$	Peak sparse sound pressure
Prr	Pulse repetition frequency
TI	Thermal index
TIS	Soft tissue thermal index
TIB	Bone thermal index
TIC	Skull thermal index
Z	Distance from the sound source to the specified point
z_b	Distance from the sound source to the specified point
z_{bp}	Breakpoint depth
z_s	Depth for TIS

The global maximum acoustic output values for each possible Transducer Model/Operating Mode combination are reported in the following tables.

Table 2.8.6

Acoustic Output Reporting Table for Track3

Transducer Model: C50
Operating Mode: B Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.07	0.34			0.34			N/A	
Index Component Value		1.07	0.34	N/A	N/A	0.34	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_r at z_{ref} (MPa)	1.78								
	P (mW)		38.42	N/A		38.42	N/A		N/A	N/A
	$P_{1\%1}$ (mW)		25.96	N/A		25.96	N/A			
	Min. of $[P_{01}(Z_0), I_{01}(Z_0) \times 1 \text{ cm}^2]$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{eq} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{01} (cm)	4.41			N/A			N/A		
	z_{01} (cm)	2.52								
	d_{eq} at z_0 (cm)							N/A		
	f_{01} (MHz)	2.79	2.79	N/A		2.79	N/A		N/A	N/A
	Dim of A_{01} X(cm)		0.53	N/A		0.53	N/A		N/A	N/A
	Dim of A_{01} Y(cm)		1.48	N/A		1.48	N/A		N/A	N/A
Other Information	Mode Components	B	B	N/A		B	N/A		N/A	N/A
	t_s (usec)	0.60								
	p_{rr} (Hz)	7163.80								
	s_{rr} (Hz)	22.53								
	p_r at z_{01} (MPa)	2.89								
	d_{eq} at z_{01} (cm)							N/A		
	I_{01} at z_{01} (W/cm ²)	91.49								
	Focal Length FL_x (cm)	2.00			N/A			N/A		
	Focal Length FL_y (cm)	2.56			N/A			N/A		
	Focus(mm)	20	20	N/A	N/A	20	N/A	N/A	N/A	N/A
Operating Control Conditions	Depth(mm)	30	30	N/A	N/A	30	N/A	N/A	N/A	N/A
	Working frequency(MHz)	3.2	3.2	N/A	N/A	3.2	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C50
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.07	0.50			0.50			N/A	
Index Component Value		1.07	B:0.34 C:0.16	N/A	N/A	B:0.34 C:0.16	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.78								
	P (mW)		B:38.42 C:22.34	N/A		B:38.42 C:22.34	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:25.96 C:15.09	N/A		B:25.96 C:15.09	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-1}$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{pl} (cm)	4.41			N/A			N/A		
	z_{MI} (cm)	2.52								
	d_{eq} at z_0 (cm)							N/A		
	f_{0nt} (MHz)	2.79	B:2.79 C:2.19	N/A		B:2.79 C:2.19	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.53	N/A		0.53	N/A		N/A	N/A
	Y (cm)		1.48	N/A		1.48	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.60								
	p_{rr} (Hz)	7163.80								
	s_{rr} (Hz)	22.53								
	p_r at z_{pl} (MPa)	2.89								
	d_{eq} at z_{pl} (cm)							N/A		
	$I_{0s,s}$ at $z_{pl,s}$ (W/cm ²)	91.49								
	Focal Length									
	FL_x (cm)	2.00			N/A			N/A		
	FL_y (cm)	2.56			N/A			N/A		
Operating Control Conditions	Focus(mm)	20	20	N/A	N/A	20	N/A	N/A	N/A	N/A
	Depth(mm)	30	30	N/A	N/A	30	N/A	N/A	N/A	N/A
	Working frequency(MHz)	B:3.2 C:2.0	B:3.2 C:2.0	N/A	N/A	B:3.2 C:2.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C50
Operating Mode: M Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	1.07		0.51			0.85		N/A	
Index Component Value	1.07	N/A	0.51	N/A	N/A	N/A	0.85	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.78							
	P (mW)		N/A	38.42	N/A	38.42		N/A	N/A
	P_{1x1} (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{0p} (cm)			N/A			1.50		
	z_0 (cm)						1.88		
	z_{p1} (cm)	4.41		N/A			4.41		
	z_{d1} (cm)	2.52							
	d_{eq} at z_0 (cm)						0.75		
	f_{out} (MHz)	2.79	N/A	2.79	N/A	2.79		N/A	N/A
	Dim of A_{out}	X(cm)	N/A	0.53	N/A	0.53		N/A	N/A
		Y(cm)	N/A	1.48	N/A	1.48		N/A	N/A
Other Information	Mode Components	M	N/A	M	N/A	M		N/A	N/A
	t_s (usec)	0.60							
	p_{rr} (Hz)	7163.80							
	s_{rr} (Hz)	N/A							
	p_r at z_{p1} (MPa)	2.89							
	d_{eq} at z_{p1} (cm)						0.75		
	I_{01} at z_{p1} (W/cm ²)	91.49							
	Focal Length	FL_x (cm)	2.00	N/A			2.00		
		FL_y (cm)	2.56	N/A			2.56		
Operating Control Conditions	Focus(mm)	20	N/A	20	N/A	N/A	20	N/A	N/A
	Depth(mm)	30	N/A	30	N/A	N/A	30	N/A	N/A
	Working frequency(MHz)	3.2	N/A	3.2	N/A	N/A	3.2	N/A	N/A
	Speed(level)	2	N/A	2	N/A	N/A	2	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C50
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.69		0.36			1.66			
Index Component Value	0.69	N/A	0.36	N/A	N/A	N/A	1.66	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.04							
	P (mW)		N/A	34.14	N/A	34.14		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A			1.50		
	z_0 (cm)						2.96		
	z_{pi} (cm)	3.61		N/A			3.61		
	z_{td} (cm)	3.12							
	d_{eq} at z_0 (cm)						0.29		
	f_{swe} (MHz)	2.23	N/A	2.23	N/A	2.23		N/A	N/A
	Dim of A_{swe} X(cm)		N/A	0.53	N/A	0.53		N/A	N/A
	Y(cm)		N/A	1.48	N/A	1.48		N/A	N/A
	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
Other Information	t_{sr} (usec)	0.92							
	p_{rr} (Hz)	1695.40							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	1.56							
	d_{eq} at z_{pi} (cm)						0.29		
	I_{01} at z_{pi} (W/cm ²)	44.06							
	Focal Length FL_x (cm)	2.00		N/A			2.00		
	FL_y (cm)	2.56		N/A			2.56		
	Focus (mm)	20	N/A	20	N/A	N/A	20	N/A	N/A
	Depth (mm)	30	N/A	30	N/A	N/A	30	N/A	N/A
Operating Control Conditions	Working frequency (MHz)	2.0	N/A	2.0	N/A	N/A	2.0	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C60
Operating Mode: B Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.00	0.55			0.55			N/A	
Index Component Value		1.00	0.55	N/A	N/A	0.55	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_{TIS} at z_{MI} (MPa)	1.77								
	P (mW)		55.62	N/A		55.62	N/A		N/A	N/A
	P_{IS1} (mW)		37.58	N/A		37.58	N/A			
	Min. of $[P_{TIS}(Z), I_{TIS}(Z)] \times 1 \text{ cm}^2$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{IS0} (cm)				N/A			N/A		
	z_b (cm)							N/A		
	z_{PI1} (cm)	5.64			N/A			N/A		
	z_{MI} (cm)	5.30								
	d_{eq} at z_0 (cm)							N/A		
	f_{3dB} (MHz)	3.10	3.10	N/A		3.10	N/A		N/A	N/A
	Dim of A_{3dB}	X(cm)		0.53	N/A	0.53	N/A		N/A	N/A
		Y(cm)		1.48	N/A	1.48	N/A		N/A	N/A
Other Information	Mode Components	B	B	N/A		B	N/A		N/A	N/A
	t_d (usec)	0.73								
	prr (Hz)	7162.6								
	srr (Hz)	24.96								
	p_t at z_{PI1} (MPa)	3.12								
	d_{eq} at z_{PI1} (cm)							N/A		
	$I_{22.5}$ at z_{PI1} (W/cm^2)	116.30								
	Focal Length	FL_x (cm)	2.00		N/A			N/A		
		FL_y (cm)	5.30		N/A			N/A		
	Focus(mm)	20	20	N/A	N/A	20	N/A	N/A	N/A	N/A
Operating Control Conditions	Depth(mm)	30	30	N/A	N/A	30	N/A	N/A	N/A	N/A
	Working frequency(MHz)	3.3	3.3	N/A	N/A	3.3	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C60
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.00	0.64			0.64			N/A	
Index Component Value		1.00	B:0.55 C:0.09	N/A	N/A	B:0.55 C:0.09	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.77								
	P (mW)		B:55.62 C:12.56	N/A		B:55.62 C:12.56	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:37.58 C:8.49	N/A		B:37.58 C:8.49	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-2}$ (mW)				N/A					
	z_0 (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{pl} (cm)	5.64			N/A			N/A		
	z_{MI} (cm)	5.30								
	d_{eq} at z_0 (cm)							N/A		
	f_{out} (MHz)	3.10	B:3.10 C:2.21	N/A		B:3.10 C:2.21	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.53	N/A		0.53	N/A		N/A	N/A
	Y (cm)		1.48	N/A		1.48	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.73								
	p_{rr} (Hz)	7162.6								
	s_{rr} (Hz)	24.96								
	p_r at z_{pl} (MPa)	3.12								
	d_{eq} at z_{pl} (cm)							N/A		
	$I_{0\%}$ at z_{pl} (W/cm ²)	116.30								
	Focal Length									
	FL_x (cm)	2.00			N/A			N/A		
	FL_y (cm)	5.30			N/A			N/A		
Operating Control Conditions	Focus(mm)	20	20	N/A	N/A	20	N/A	N/A	N/A	N/A
	Depth(mm)	30	30	N/A	N/A	30	N/A	N/A	N/A	N/A
	Working frequency(MHz)	B:3.3 C:2.0	B:3.3 C:2.0	N/A	N/A	B:3.3 C:2.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C60
Operating Mode: M Mode

Index Label		MI	T/S			T/B			T/C	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.00		0.82			1.20		N/A	
Index Component Value		1.00	N/A	0.82	N/A	N/A	N/A	1.20	N/A	N/A
Associated Acoustic Parameters	p_{TIS} at z_{MI} (MPa)	1.77								
	P (mW)		N/A	55.62		N/A	55.62		N/A	N/A
	P_{TIS} (mW)		N/A	N/A		N/A	N/A			
	Min. of $[P_{TIS}(Z), I_{TIS}(Z)]$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{SP} (cm)				N/A			1.50		
	z_D (cm)							4.51		
	z_{PI} (cm)	5.64			N/A			5.64		
	z_{MI} (cm)	5.30								
	d_{eq} at z_D (cm)							0.63		
	f_{emit} (MHz)	3.10	N/A	3.10		N/A	3.10		N/A	N/A
	Dim of A_{spot}	X(cm)		0.53		N/A	0.53		N/A	N/A
		Y(cm)		1.48		N/A	1.48		N/A	N/A
Other Information	Mode Components	M	N/A	M		N/A	M		N/A	N/A
	t_d (usec)	0.73								
	prr (Hz)	7162.6								
	srr (Hz)	N/A								
	p_r at z_{PI} (MPa)	3.12								
	d_{eq} at z_{PI} (cm)							0.63		
	$I_{PI,IS}$ at $z_{PI,IS}$ (W/cm ²)	116.30								
	Focal Length	FL_x (cm)			N/A			2.00		
		FL_y (cm)			N/A			5.30		
	Focus(mm)	20	N/A	20	N/A	N/A	N/A	20	N/A	N/A
Operating Control Conditions	Depth(mm)	30	N/A	30	N/A	N/A	N/A	30	N/A	N/A
	Working frequency(MHz)	3.3	N/A	3.3	N/A	N/A	N/A	3.3	N/A	N/A
	Speed(level)	2	N/A	2	N/A	N/A	N/A	2	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C60
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.89		0.52			1.56		N/A	
Index Component Value	0.89	N/A	0.52	N/A	N/A	N/A	1.56	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.42							
	P (mW)		N/A	43.20	N/A	43.20		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A			1.50		
	z_0 (cm)						4.24		
	z_{pi} (cm)	5.40		N/A			5.40		
	z_{td} (cm)	5.28							
	d_{01} at z_0 (cm)						0.38		
	f_{01} (MHz)	2.55	N/A	2.55	N/A	2.55		N/A	N/A
	Dim of A_{01}								
	X(cm)		N/A	0.53	N/A	0.53		N/A	N/A
	Y(cm)		N/A	1.48	N/A	1.48		N/A	N/A
Other Information	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
	t_r (usec)	0.76							
	p_{rr} (Hz)	1695.40							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	2.27							
	d_{01} at z_{pi} (cm)						0.38		
	I_{01} at z_{pi} (W/cm ²)	101.30							
	Focal Length								
	FL_x (cm)	2.00		N/A			2.00		
	FL_y (cm)	5.30		N/A			5.30		
Operating Control Conditions	Focus(mm)	20	N/A	20	N/A	N/A	20	N/A	N/A
	Depth(mm)	30	N/A	30	N/A	N/A	30	N/A	N/A
	Working frequency(MHz)	2.5	N/A	2.5	N/A	N/A	2.5	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C15
Operating Mode: B Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		0.45	0.16			0.16			N/A	
Index Component Value		0.45	0.16	N/A	N/A	0.16	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_{sa} at z_{MI} (MPa)	1.10								
	P (mW)		7.89	N/A		7.89	N/A		N/A	N/A
	P_{Tx1} (mW)		5.56	N/A		5.56	N/A			
	Min. of $[P_{sa}(z), I_{sa}(z)]$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{Op} (cm)				N/A			N/A		
	z_o (cm)							N/A		
	z_{pi} (cm)	1.38			N/A			N/A		
	z_{MI} (cm)	1.38								
	d_{eq} at z_o (cm)							N/A		
	f_{DPT} (MHz)	6.11	6.11	N/A		6.11	N/A		N/A	N/A
	Dim of A_{DPT}	X(cm)		0.41	N/A	0.41	N/A		N/A	N/A
		Y(cm)		1.42	N/A	1.42	N/A		N/A	N/A
Other Information	Mode Components		B	B	N/A	B	N/A		N/A	N/A
	t_d (usec)		0.23							
	prr (Hz)		4799.20							
	srr (Hz)		23.20							
	p_a at z_{pi} (MPa)		1.47							
	d_{eq} at z_{pi} (cm)							N/A		
	I_{DPT} at z_{pi} (W/cm ²)		74.23							
	Focal Length	FL_x (cm)	0.50		N/A			N/A		
		FL_y (cm)	1.12		N/A			N/A		
	Focus(mm)		5	5	N/A	5	N/A	N/A	N/A	N/A
Operating Control Conditions	Depth(mm)		15	15	N/A	15	N/A	N/A	N/A	N/A
	Working frequency(MHz)		6.5	6.5	N/A	6.5	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C15
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		0.45	0.27			0.27			N/A	
Index Component Value		0.45	B:0.16 C:0.11	N/A	N/A	B:0.16 C:0.11	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.10								
	P (mW)		B:7.89 C:7.02	N/A		B:7.89 C:7.02	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:5.56 C:4.94	N/A		B:5.56 C:4.94	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-1}$ (mW)				N/A					
	z_0 (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{p0} (cm)	1.38			N/A			N/A		
	z_{MI} (cm)	1.38								
	d_{eq} at z_0 (cm)							N/A		
	f_{0MT} (MHz)	6.11	B:6.11 C:4.52	N/A		B:6.11 C:4.52	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.41	N/A		0.41	N/A		N/A	N/A
	Y (cm)		1.42	N/A		1.42	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.23								
	p_{rr} (Hz)	4799.20								
	s_{rr} (Hz)	23.20								
	p_r at z_{p0} (MPa)	1.47								
	d_{eq} at z_{p0} (cm)							N/A		
	$I_{0B,s}$ at z_{p0} (W/cm ²)	74.23								
	Focal Length									
	FL_x (cm)	0.50			N/A			N/A		
	FL_y (cm)	1.12			N/A			N/A		
Operating Control Conditions	Focus (mm)	5	5	N/A	N/A	5	N/A	N/A	N/A	N/A
	Depth (mm)	15	15	N/A	N/A	15	N/A	N/A	N/A	N/A
	Working frequency (MHz)	B:6.5 C:5.0	B:6.5 C:5.0	N/A	N/A	B:6.5 C:5.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C15
Operating Mode: M Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.45		0.23			0.27		N/A	
Index Component Value	0.45	N/A	0.23	N/A	N/A	N/A	0.27	N/A	N/A
Associated Acoustic Parameters	p_{ref} at Z_{ref} (MPa)	1.10							
	P (mW)		N/A	7.89	N/A	7.89		N/A	N/A
	P_{1x1} (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 1 \text{ cm}^2$ (mW)			N/A					
	Z_s (cm)			N/A					
	Z_{0p} (cm)			N/A			1.29		
	Z_0 (cm)						1.38		
	Z_{p1} (cm)	1.38		N/A			1.38		
	Z_{d1} (cm)	1.38							
	d_{eq} at Z_0 (cm)						0.29		
	f_{out} (MHz)	6.11	N/A	6.11	N/A	6.11		N/A	N/A
	Dim of A_{out}	X(cm)	N/A	0.41	N/A	0.41		N/A	N/A
		Y(cm)	N/A	1.42	N/A	1.42		N/A	N/A
Other Information	Mode Components	M	N/A	M	N/A	M		N/A	N/A
	t_{01} (usec)	0.23							
	p_{rr} (Hz)	4799.20							
	s_{rr} (Hz)	N/A							
	p_r at Z_{p1} (MPa)	1.47							
	d_{eq} at Z_{p1} (cm)						0.29		
	I_{01} at Z_{p1} (W/cm ²)	74.23							
	Focal Length	FL_x (cm)	0.50	N/A			0.50		
		FL_y (cm)	1.12	N/A			1.12		
Operating Control Conditions	Focus(mm)	5	N/A	5	N/A	N/A	5	N/A	N/A
	Depth(mm)	15	N/A	15	N/A	N/A	15	N/A	N/A
	Working frequency(MHz)	6.5	N/A	6.5	N/A	N/A	6.5	N/A	N/A
	Speed(level)	2	N/A	2	N/A	N/A	2	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C15
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.80		0.54			0.78			
Index Component Value	0.80	N/A	0.54	N/A	N/A	N/A	0.78	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.79							
	P (mW)		N/A	22.68	N/A	22.68		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A		1.29			
	z_0 (cm)					1.37			
	z_{pi} (cm)	1.41		N/A		1.41			
	z_{td} (cm)	1.37							
	d_{eq} at z_0 (cm)					0.23			
	f_{swe} (MHz)	5.01	N/A	5.01	N/A	5.01		N/A	N/A
	Dim of A_{swe} X(cm)		N/A	0.41	N/A	0.41		N/A	N/A
	Y(cm)		N/A	1.42	N/A	1.42		N/A	N/A
	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
Other Information	t_{sr} (usec)	0.80							
	p_{rr} (Hz)	4069.20							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	2.58							
	d_{eq} at z_{pi} (cm)					0.23			
	I_{01} at z_{pi} (W/cm ²)	200.60							
	Focal FL_x (cm)	0.50		N/A		0.50			
	Length FL_y (cm)	1.12		N/A		1.12			
	Focus(mm)	5	N/A	5	N/A	N/A	5	N/A	N/A
	Depth(mm)	15	N/A	15	N/A	N/A	15	N/A	N/A
Operating Control Conditions	Working frequency(MHz)	5.0	N/A	5.0	N/A	N/A	5.0	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C10
Operating Mode: B Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		0.70	0.27			0.27			N/A	
Index Component Value		0.70	0.27	N/A	N/A	0.27	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_s at z_M (MPa)	1.73								
	P (mW)		13.34	N/A		13.34	N/A		N/A	N/A
	P_{Tx1} (mW)		9.39	N/A		9.39	N/A			
	Min. of $[P_s(z), I_{BSA}(z) \times 1 \text{ cm}^2]$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{Op} (cm)				N/A			N/A		
	z_o (cm)							N/A		
	z_{pi} (cm)	1.43			N/A			N/A		
	z_M (cm)	1.41								
	d_{eq} at z_o (cm)							N/A		
	f_{DPT} (MHz)	6.13	6.13	N/A		6.13	N/A		N/A	N/A
	Dim of A_{DPT}	X(cm)		0.41	N/A	0.41	N/A		N/A	N/A
		Y(cm)		1.42	N/A	1.42	N/A		N/A	N/A
Other Information	Mode Components		B	B	N/A	B	N/A		N/A	N/A
	t_d (usec)		0.29							
	prr (Hz)		4795.70							
	srr (Hz)		23.20							
	p_s at z_{pi} (MPa)		2.15							
	d_{eq} at z_{pi} (cm)							N/A		
	I_{BSA} at z_{pi} (W/cm ²)		89.25							
	Focal Length	FL_x (cm)		0.50	N/A			N/A		
		FL_y (cm)		1.25	N/A			N/A		
	Focus(mm)		5	5	N/A	5	N/A	N/A	N/A	N/A
Operating Control Conditions	Depth(mm)		15	15	N/A	15	N/A	N/A	N/A	N/A
	Working frequency(MHz)		6.5	6.5	N/A	6.5	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: C10
Operating Mode: B+C/B+P Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.70	0.50			0.50			N/A	
Index Component Value	0.70	B:0.27 C:0.23	N/A	N/A	B:0.27 C:0.23	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.73							
	P (mW)		B:13.34 C:14.72	N/A	B:13.34 C:14.72	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:9.39 C:10.37	N/A	B:9.39 C:10.37	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-1}$ (mW)			N/A					
	z_0 (cm)			N/A					
	z_{00} (cm)			N/A			N/A		
	z_0 (cm)						N/A		
	z_{p0} (cm)	1.43		N/A			N/A		
	z_{MI} (cm)	1.41							
	d_{eq} at z_0 (cm)						N/A		
	f_{0MT} (MHz)	6.13	B:6.13 C:4.57	N/A	B:6.13 C:4.57	N/A		N/A	N/A
	Dim of A_{act}		0.41	N/A	0.41	N/A		N/A	N/A
	X (cm)		1.42	N/A	1.42	N/A		N/A	N/A
	Y (cm)								
Other Information	Mode Components	B	B+C	N/A	B+C	N/A		N/A	N/A
	t_f (usec)	0.29							
	p_{rr} (Hz)	4795.70							
	s_{rr} (Hz)	23.20							
	p_r at z_{p0} (MPa)	2.15							
	d_{eq} at z_{p0} (cm)						N/A		
	$I_{0B,s}$ at z_{p0} (W/cm ²)	89.25							
	Focal Length			N/A			N/A		
	FL_x (cm)	0.50					N/A		
	FL_y (cm)	1.25					N/A		
Operating Control Conditions	Focus(mm)	5	5	N/A	5	N/A	N/A	N/A	N/A
	Depth(mm)	15	15	N/A	15	N/A	N/A	N/A	N/A
	Working frequency(MHz)	B:6.5 C:5.0	B:6.5 C:5.0	N/A	B:6.5 C:5.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: C10
Operating Mode: M Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.70		0.39			0.91		N/A	
Index Component Value	0.70	N/A	0.39	N/A	N/A	N/A	0.91	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.73							
	P (mW)		N/A	13.34	N/A	13.34		N/A	N/A
	P_{1x1} (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{0p} (cm)			N/A			1.29		
	z_0 (cm)						1.39		
	z_{p1} (cm)	1.43		N/A			1.43		
	z_{d1} (cm)	1.41							
	d_{eq} at z_0 (cm)						0.26		
	f_{out} (MHz)	6.13	N/A	6.13	N/A	6.13		N/A	N/A
	Dim of A_{out}	X(cm)	N/A	0.41	N/A	0.41		N/A	N/A
		Y(cm)	N/A	1.42	N/A	1.42		N/A	N/A
Other Information	Mode Components	M	N/A	M	N/A	M		N/A	N/A
	t_{01} (usec)	0.29							
	p_{rr} (Hz)	4795.70							
	s_{rr} (Hz)	N/A							
	p_r at z_{p1} (MPa)	2.15							
	d_{eq} at z_{p1} (cm)						0.26		
	I_{01} at z_{p1} (W/cm ²)	89.25							
	Focal Length	FL_x (cm)	0.50	N/A			0.50		
		FL_y (cm)	1.25	N/A			1.25		
Operating Control Conditions	Focus(mm)	5	N/A	5	N/A	5		N/A	N/A
	Depth(mm)	15	N/A	15	N/A	15		N/A	N/A
	Working frequency(MHz)	6.5	N/A	6.5	N/A	6.5		N/A	N/A
	Speed(level)	2	N/A	2	N/A	2		N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

TRF No. FDA Acoustic Output_1.1

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Acoustic Output Reporting Table for Track3

Transducer Model: C10
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.97		0.59			0.84			N/A
Index Component Value	0.97	N/A	0.59	N/A	N/A	N/A	0.84	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	2.16							
	P (mW)		N/A	25.03	N/A	25.03		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A			1.29		
	z_0 (cm)						1.43		
	z_{pi} (cm)	1.45		N/A			1.45		
	z_{td} (cm)	1.42							
	d_{eq} at z_0 (cm)						0.56		
	f_{swe} (MHz)	4.97	N/A	4.97	N/A	4.97		N/A	N/A
	Dim of A_{swe} X(cm)		N/A	0.41	N/A	0.41		N/A	N/A
	Y(cm)		N/A	1.42	N/A	1.42		N/A	N/A
	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
Other Information	t_r (usec)	0.79							
	p_{rr} (Hz)	4177.50							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	2.93							
	d_{eq} at z_{pi} (cm)						0.56		
	I_{01} at z_{pi} (W/cm ²)	299.50							
	Focal Length FL_x (cm)	0.50		N/A			0.50		
	FL_y (cm)	1.25		N/A			1.25		
	Operating Control Conditions								
	Focus(mm)	5	N/A	5	N/A	N/A	5	N/A	N/A
	Depth(mm)	15	N/A	15	N/A	N/A	15	N/A	N/A
	Working frequency(MHz)	5.0	N/A	5.0	N/A	N/A	5.0	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: L25
Operating Mode: B Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.50	0.12			0.12			N/A	
Index Component Value	0.50	0.12	N/A	N/A	0.12	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_{r0} at Z_{MI} (MPa)	1.36							
	P (mW)		4.72	N/A	4.72	N/A		N/A	N/A
	P_{1x1} (mW)		3.37	N/A	3.37	N/A			
	Min. of $[P_{\alpha}(Z), I_{\alpha\alpha}(Z)] \times 10 \text{ cm}^2$ (mW)			N/A					
	Z_s (cm)			N/A					
	Z_{SD} (cm)			N/A			N/A		
	Z_B (cm)						N/A		
	Z_{p1} (cm)	0.73		N/A			N/A		
	Z_{MI} (cm)	0.73							
	d_{eq} at Z_D (cm)						N/A		
	f_{swt} (MHz)	7.45	7.45	N/A	7.45	N/A		N/A	N/A
	Dim of A_{apert} X(cm) Y(cm)		0.41 1.40	N/A	0.41 1.40	N/A		N/A	N/A
Other Information	Mode Components	B	B	N/A	B	N/A		N/A	N/A
	t_d (usec)	0.11							
	p_{rr} (Hz)	4847.50							
	s_{rr} (Hz)	13.70							
	p_r at Z_{OI} (MPa)	1.99							
	d_{SQ} at Z_{OI} (cm)						N/A		
	$I_{B \&}$ at $Z_{BII \&}$ (W/cm ²)	100.50							
	Focal Length FL_s (cm) FL_r (cm)	0.50 0.77		N/A			N/A		
				N/A			N/A		
Operating Control Conditions	Focus(mm)	5	5	N/A	5	N/A	N/A	N/A	N/A
	Depth(mm)	15	15	N/A	15	N/A	N/A	N/A	N/A
	Working frequency(MHz)	7.5	7.5	N/A	7.5	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: L25
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		0.50	0.41			0.41			N/A	
Index Component Value		0.50	B:0.12 C:0.29	N/A	N/A	B:0.12 C:0.29	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.36								
	P (mW)		B:4.72 C:15.03	N/A		B:4.72 C:15.03	N/A		N/A	N/A
	$P_{1\%I}$ (mW)		B:3.37 C:10.74	N/A		B:3.37 C:10.74	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-1} \text{ cm}^2$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{p0} (cm)	0.73			N/A			N/A		
	z_{MI} (cm)	0.73								
	d_{eq} at z_0 (cm)							N/A		
	f_{0MT} (MHz)	7.45	B:7.45 C:5.71	N/A		B:7.45 C:5.71	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.41	N/A		0.41	N/A		N/A	N/A
	Y (cm)		1.40	N/A		1.40	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.11								
	p_{rr} (Hz)	4847.50								
	s_{rr} (Hz)	13.70								
	p_r at z_{p0} (MPa)	1.99								
	d_{eq} at z_{p0} (cm)							N/A		
	$I_{0B,s}$ at z_{p0} (W/cm ²)	100.50								
	Focal Length									
Operating Control Conditions	FL_x (cm)	0.50			N/A			N/A		
	FL_y (cm)	0.77			N/A			N/A		
	Focus(mm)	5	5	N/A	N/A	5	N/A	N/A	N/A	N/A
	Depth(mm)	15	15	N/A	N/A	15	N/A	N/A	N/A	N/A
Working frequency(MHz)										
			B:7.5 C:6.0	B:7.5 C:6.0	N/A	N/A	B:7.5 C:6.0	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: L25
Operating Mode: M Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.50	0.17			0.17			N/A	
Index Component Value	0.50	N/A	0.17	N/A	N/A	N/A	0.17	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.36							
	P (mW)		N/A	4.72	N/A	4.72		N/A	N/A
	P_{1x1} (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{0p} (cm)			N/A			1.28		
	z_0 (cm)						1.28		
	z_{p1} (cm)	0.73		N/A			0.73		
	z_{d1} (cm)	0.73							
	d_{eq} at z_0 (cm)						0.43		
	f_{out} (MHz)	7.45	N/A	7.45	N/A	7.45		N/A	N/A
	Dim of A_{out}	X(cm)	N/A	0.41	N/A	0.41		N/A	N/A
		Y(cm)	N/A	1.40	N/A	1.40		N/A	N/A
Other Information	Mode Components	M	N/A	M	N/A	M		N/A	N/A
	t_s (usec)	0.11							
	p_{rr} (Hz)	4847.50							
	s_{rr} (Hz)	N/A							
	p_r at z_{p1} (MPa)	1.99							
	d_{eq} at z_{p1} (cm)						0.43		
	I_{01} at z_{p1} (W/cm ²)	100.50							
	Focal Length	FL_x (cm)	0.50	N/A			0.50		
		FL_y (cm)	0.77	N/A			0.77		
Operating Control Conditions	Focus(mm)	5	N/A	5	N/A	N/A	5	N/A	N/A
	Depth(mm)	15	N/A	15	N/A	N/A	15	N/A	N/A
	Working frequency(MHz)	7.5	N/A	7.5	N/A	N/A	7.5	N/A	N/A
	Speed(level)	2	N/A	2	N/A	N/A	2	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: L25
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.71		0.58			0.90			N/A
Index Component Value	0.71	N/A	0.58	N/A	N/A	N/A	0.90	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.69							
	P (mW)		N/A	21.26	N/A	21.26		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{ref}(Z), I_{ref}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A			1.28		
	z_0 (cm)						1.28		
	z_{pi} (cm)	0.71		N/A			0.71		
	z_{td} (cm)	0.69							
	d_{eq} at z_0 (cm)						0.35		
	f_{swe} (MHz)	5.69	N/A	5.69	N/A	5.69		N/A	N/A
	Dim of A_{swe}								
	X(cm)		N/A	0.41	N/A	0.41		N/A	N/A
	Y(cm)		N/A	1.40	N/A	1.40		N/A	N/A
Other Information	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
	t_{sr} (usec)	0.75							
	p_{rr} (Hz)	4069.20							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	2.28							
	d_{eq} at z_{pi} (cm)						0.35		
	$I_{os, s}$ at $z_{pi, s}$ (W/cm ²)	163.90							
	Focal Length								
	FL_x (cm)	0.50		N/A			0.50		
	FL_y (cm)	0.77		N/A			0.77		
Operating Control Conditions	Focus(mm)	5	N/A	5	N/A	N/A	5	N/A	N/A
	Depth(mm)	15	N/A	15	N/A	N/A	15	N/A	N/A
	Working frequency(MHz)	6.0	N/A	6.0	N/A	N/A	6.0	N/A	N/A
NOTE: N/A indicates that there is no corresponding intended use or no data reported.									

Acoustic Output Reporting Table for Track3

Transducer Model: L40
Operating Mode: B Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.44	0.11			0.11			N/A	
Index Component Value	0.44	0.11	N/A	N/A	0.11	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	p_{r0} at Z_{MI} (MPa)	1.21							
	P (mW)	4.47	N/A		4.47	N/A		N/A	N/A
	P_{1x1} (mW)	3.19	N/A		3.19	N/A			
	Min. of $[P_{\alpha}(Z), I_{\alpha\alpha}(Z)] \times 10 \text{ cm}^2$ (mW)			N/A					
	Z_s (cm)			N/A					
	Z_{SD} (cm)			N/A			N/A		
	Z_B (cm)						N/A		
	Z_{p1} (cm)	0.75		N/A			N/A		
	Z_{MI} (cm)	0.71							
	d_{eq} at Z_D (cm)						N/A		
	f_{swt} (MHz)	7.39	7.39	N/A	7.39	N/A		N/A	N/A
	Dim of A_{apert} X(cm) Y(cm)		0.55 1.40	N/A	0.55 1.40	N/A		N/A	N/A
Other Information	Mode Components	B	B	N/A	B	N/A		N/A	N/A
	t_d (usec)	0.10							
	p_{rr} (Hz)	4847.40							
	s_{rr} (Hz)	13.70							
	p_r at Z_{OI} (MPa)	1.75							
	d_{SQ} at Z_{OI} (cm)						N/A		
	I_{B20} at $Z_{BII.0}$ (W/cm ²)	76.90							
	Focal Length FL_s (cm) FL_r (cm)	0.50 0.73		N/A			N/A		
	Focus(mm)	5	5	N/A	5	N/A	N/A	N/A	N/A
	Depth(mm)	15	15	N/A	15	N/A	N/A	N/A	N/A
Operating Control Conditions	Working frequency(MHz)	7.5	7.5	N/A	7.5	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: L40
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		0.44	0.32			0.32			N/A	
Index Component Value		0.44	B:0.11 C:0.21	N/A	N/A	B:0.11 C:0.21	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.21								
	P (mW)		B:4.47 C:10.95	N/A		B:4.47 C:10.95	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:3.19 C:7.82	N/A		B:3.19 C:7.82	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-2}$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{p1} (cm)	0.75			N/A			N/A		
	z_{MI} (cm)	0.71								
	d_{eq} at z_0 (cm)							N/A		
	f_{0MT} (MHz)	7.39	B:7.39 C:5.70	N/A		B:7.39 C:5.70	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.55	N/A		0.55	N/A		N/A	N/A
	Y (cm)		1.40	N/A		1.40	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.10								
	p_{rr} (Hz)	4847.40								
	s_{rr} (Hz)	13.70								
	p_r at z_{p1} (MPa)	1.75								
	d_{eq} at z_{p1} (cm)							N/A		
	$I_{0B,s}$ at z_{p1} (W/cm ²)	76.90								
	Focal Length									
	FL_x (cm)	0.50			N/A			N/A		
	FL_y (cm)	0.73			N/A			N/A		
Operating Control Conditions	Focus(mm)	5	5	N/A	N/A	5	N/A	N/A	N/A	N/A
	Depth(mm)	15	15	N/A	N/A	15	N/A	N/A	N/A	N/A
	Working frequency(MHz)	B:7.5 C:6.0	B:7.5 C:6.0	N/A	N/A	B:7.5 C:6.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: L40
Operating Mode: M Mode

Index Label		MI	TIS			TIB			TIC		
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan	
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface	
Maximum Index Value		0.44	0.16			0.15			N/A		
Index Component Value		0.44	N/A	0.16	N/A	N/A	N/A	0.15	N/A	N/A	
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.21									
	P (mW)		N/A	4.47		N/A	4.47		N/A	N/A	
	P_{1x1} (mW)		N/A	N/A		N/A	N/A				
	Min. of $[P_0(Z), I_{0x0}(Z)] \times 10^{-2}$ (mW)				N/A						
	z_s (cm)				N/A						
	z_{0p} (cm)				N/A			1.48			
	z_0 (cm)							1.48			
	z_{p1} (cm)	0.75			N/A			0.75			
	z_{d1} (cm)	0.71									
	d_{eq} at z_0 (cm)							0.41			
	f_{out} (MHz)	7.39	N/A	7.39		N/A	7.39		N/A	N/A	
	Dim of A_{out}	X(cm) Y(cm)		N/A	0.55	N/A	0.55		N/A	N/A	
				N/A	1.40	N/A	1.40		N/A	N/A	
Other Information	Mode Components	M	N/A	M		N/A	M		N/A	N/A	
	t_s (usec)	0.10									
	p_{rr} (Hz)	4847.40									
	s_{rr} (Hz)	N/A									
	p_r at z_{p1} (MPa)	1.75									
	d_{eq} at z_{p1} (cm)							0.41			
	I_{0x0} at z_{p1} (W/cm ²)	76.90									
	Focal Length	FL_x (cm) FL_y (cm)	0.50 0.73		N/A N/A			0.50 0.73			
	Operating Control Conditions	Focus(mm)	5	N/A	5	N/A	N/A	N/A	5	N/A	N/A
		Depth(mm)	15	N/A	15	N/A	N/A	N/A	15	N/A	N/A
Working frequency(MHz)		7.5	N/A	7.5	N/A	N/A	N/A	7.5	N/A	N/A	
Speed(level)		2	N/A	2	N/A	N/A	N/A	2	N/A	N/A	
NOTE: N/A indicates that there is no corresponding intended use or no data reported.											

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

TRF No. FDA Acoustic Output_1.1

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Acoustic Output Reporting Table for Track3

Transducer Model: L40
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.54		0.52			0.79			
Index Component Value	0.54	N/A	0.52	N/A	N/A	N/A	0.79	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	1.29							
	P (mW)		N/A	19.22	N/A	19.22		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A		1.48			
	z_0 (cm)					1.48			
	z_{pi} (cm)	0.74		N/A		0.74			
	z_{td} (cm)	0.72							
	d_{eq} at z_0 (cm)					0.21			
	f_{swe} (MHz)	5.71	N/A	5.71	N/A	5.71		N/A	N/A
	Dim of A_{swe} X(cm)		N/A	0.55	N/A	0.55		N/A	N/A
	Y(cm)		N/A	1.40	N/A	1.40		N/A	N/A
	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
Other Information	t_{sr} (usec)	0.75							
	p_{rr} (Hz)	4069.20							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	1.72							
	d_{eq} at z_{pi} (cm)					0.21			
	I_{01} at z_{pi} (W/cm ²)	74.73							
	Focal Length FL_x (cm)	0.50		N/A		0.50			
	FL_y (cm)	0.73		N/A		0.73			
	Focus (mm)	5	N/A	5	N/A	5	N/A	N/A	N/A
	Depth (mm)	15	N/A	15	N/A	15	N/A	N/A	N/A
Operating Control Conditions	Working frequency (MHz)	6.0	N/A	6.0	N/A	6.0	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: P20
Operating Mode: B Mode

Index Label		MI	T/S			T/B			T/C	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.31	0.38			0.38			N/A	
Index Component Value		1.31	0.38	N/A	N/A	0.38	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MR} (MPa)	1.93								
	P_r (mW)		44.36	N/A		44.36	N/A		N/A	N/A
	$P_{r,s1}$ (mW)		36.97	N/A		36.97	N/A			
	Min. of $[P_r(Z), I_{r,s}(Z)] \times 1 \text{ cm}^2$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{op} (cm)				N/A			N/A		
	z_o (cm)							N/A		
	z_{pi} (cm)	3.68			N/A			N/A		
	z_{MR} (cm)	3.12								
	d_{eq} at z_o (cm)							N/A		
	f_{axt} (MHz)	2.18	2.18	N/A		2.18	N/A		N/A	N/A
	Dim of A_{axt} X(cm)		0.52	N/A		0.52	N/A		N/A	N/A
	Y(cm)		1.20	N/A		1.20	N/A		N/A	N/A
Other Information	Mode Components	B	B	N/A		B	N/A		N/A	N/A
	t_s (usec)	0.46								
	p_{rr} (Hz)	7163.50								
	s_{rr} (Hz)	45.07								
	p_r at z_{pi} (MPa)	3.14								
	d_{eq} at z_{pi} (cm)							N/A		
	$I_{p2,s}$ at z_{pi} (W/cm ²)	108.03								
	Focal Length FL_x (cm)	4.00			N/A			N/A		
Operating Control Conditions	FL_y (cm)	3.20			N/A			N/A		
	Focus(mm)	40	40	N/A	N/A	40	N/A	N/A	N/A	N/A
	Depth(mm)	50	50	N/A	N/A	50	N/A	N/A	N/A	N/A
	Working frequency(MHz)	2.0	2.0	N/A	N/A	2.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

Acoustic Output Reporting Table for Track3

Transducer Model: P20
Operating Mode: B+C/B+P Mode

Index Label		MI	TIS			TIB			TIC	
			Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
			At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value		1.31	0.60			0.60			N/A	
Index Component Value		1.31	B:0.38 C:0.22	N/A	N/A	B:0.38 C:0.22	N/A	N/A	N/A	N/A
Associated Acoustic Parameters	$p_{r,s}$ at z_{MI} (MPa)	1.93								
	P (mW)		B:44.36 C:27.58	N/A		B:44.36 C:27.58	N/A		N/A	N/A
	$P_{1\%}$ (mW)		B:36.97 C:22.98	N/A		B:36.97 C:22.98	N/A			
	Min. of $[P_{r,s}(Z), I_{r,s}(Z)] \times 10^{-2}$ (mW)				N/A					
	z_s (cm)				N/A					
	z_{00} (cm)				N/A			N/A		
	z_0 (cm)							N/A		
	z_{p1} (cm)	3.68			N/A			N/A		
	z_{MI} (cm)	3.12								
	d_{eq} at z_0 (cm)							N/A		
	f_{0nt} (MHz)	2.18	B:2.18 C:2.01	N/A		B:2.18 C:2.01	N/A		N/A	N/A
	Dim of A_{act}									
	X (cm)		0.52	N/A		0.52	N/A		N/A	N/A
	Y (cm)		1.20	N/A		1.20	N/A		N/A	N/A
Other Information	Mode Components	B	B+C	N/A		B+C	N/A		N/A	N/A
	t_f (usec)	0.46								
	p_{rr} (Hz)	7163.50								
	s_{rr} (Hz)	45.07								
	p_r at z_{p1} (MPa)	3.14								
	d_{eq} at z_{p1} (cm)							N/A		
	$I_{0s,s}$ at $z_{p1,s}$ (W/cm ²)	108.03								
	Focal Length									
	FL_x (cm)	4.00			N/A			N/A		
	FL_y (cm)	3.20			N/A			N/A		
Operating Control Conditions	Focus(mm)	40	40	N/A	N/A	40	N/A	N/A	N/A	N/A
	Depth(mm)	50	50	N/A	N/A	50	N/A	N/A	N/A	N/A
	Working frequency(MHz)	B:2.0 C:2.0	B:2.0 C:2.0	N/A	N/A	B:2.0 C:2.0	N/A	N/A	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: P20
Operating Mode: M Mode

Index Label	MI	TIS			TIB			TIC	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	1.31		0.46			1.25		N/A	
Index Component Value	1.31	N/A	0.46	N/A	N/A	N/A	1.25	N/A	N/A
Associated Acoustic Parameters	p_{ref} at Z_{ref} (MPa)	1.93							
	P (mW)		N/A	44.36	N/A	44.36		N/A	N/A
	P_{1x1} (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	Z_s (cm)			N/A					
	Z_{0p} (cm)			N/A			1.33		
	Z_0 (cm)						1.35		
	Z_{p11} (cm)	3.68		N/A			3.68		
	Z_{d11} (cm)	3.12							
	d_{eq} at Z_0 (cm)						0.42		
	f_{out} (MHz)	2.18	N/A	2.18	N/A	2.18		N/A	N/A
	Dim of A_{out}	X(cm)	N/A	0.52	N/A	0.52		N/A	N/A
		Y(cm)	N/A	1.20	N/A	1.20		N/A	N/A
Other Information	Mode Components	M	N/A	M	N/A	M		N/A	N/A
	t_s (usec)	0.46							
	p_{rr} (Hz)	7163.50							
	s_{rr} (Hz)	N/A							
	p_r at Z_{p11} (MPa)	3.14							
	d_{eq} at Z_{p11} (cm)						0.42		
	I_{01} at Z_{p11} (W/cm ²)	108.03							
	Focal Length	FL_x (cm)	4.00	N/A			4.00		
		FL_y (cm)	3.20	N/A			3.20		
Operating Control Conditions	Focus(mm)	40	N/A	40	N/A	N/A	40	N/A	N/A
	Depth(mm)	50	N/A	50	N/A	N/A	50	N/A	N/A
	Working frequency(MHz)	2.0	N/A	2.0	N/A	N/A	2.0	N/A	N/A
	Speed(level)	2	N/A	2	N/A	N/A	2	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

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Acoustic Output Reporting Table for Track3

Transducer Model: P20
Operating Mode: PW Mode

Index Label	MI	T/S			T/B			T/C	
		Scan	Non-scan		Scan	Non-scan		Scan	Non-scan
		At surface	At surface	Below surface	At surface	At surface	Below surface	At surface	At surface
Maximum Index Value	0.63		0.55			1.61		N/A	
Index Component Value	0.63	N/A	0.55	N/A	N/A	N/A	1.61	N/A	N/A
Associated Acoustic Parameters	p_{ref} at z_{ref} (MPa)	0.89							
	P (mW)		N/A	57.46	N/A	57.46		N/A	N/A
	$P_{1\%}$ (mW)		N/A	N/A	N/A	N/A			
	Min. of $[P_{01}(Z), I_{01}(Z)] \times 10^{-2}$ (mW)			N/A					
	z_s (cm)			N/A					
	z_{op} (cm)			N/A			1.33		
	z_0 (cm)						1.40		
	z_{pi} (cm)	3.52		N/A			3.52		
	z_{td} (cm)	3.15							
	d_{eq} at z_0 (cm)						0.21		
	f_{swe} (MHz)	2.01	N/A	2.01	N/A	2.01		N/A	N/A
	Dim of A_{swe} X(cm)		N/A	0.52	N/A	0.52		N/A	N/A
	Y(cm)		N/A	1.20	N/A	1.20		N/A	N/A
	Mode Components	PW	N/A	PW	N/A	PW		N/A	N/A
Other Information	t_{sr} (usec)	1.42							
	p_{rr} (Hz)	8572.7							
	s_{rr} (Hz)	N/A							
	p at z_{pi} (MPa)	1.34							
	d_{eq} at z_{pi} (cm)						0.21		
	I_{01} at z_{pi} (W/cm ²)	32.50							
	Focal Length FL_x (cm)	4.00		N/A			4.00		
	FL_y (cm)	3.20		N/A			3.20		
	Focus(mm)	40	N/A	40	N/A	N/A	40	N/A	N/A
	Depth(mm)	50	N/A	50	N/A	N/A	50	N/A	N/A
Operating Control Conditions	Working frequency(MHz)	2.0	N/A	2.0	N/A	N/A	2.0	N/A	N/A

NOTE: N/A indicates that there is no corresponding intended use or no data reported.

13 Software bug information table

13.1 To be resolved by manufacture

No.	Information	Information type	Cause	Solution	Note
1	Unauthorized use of the system is prohibited, otherwise criminal or civil penalties will be imposed	system messages	The ultrasound equipment is a medical device and is used by professional doctors.	Please use the device only after obtaining the authorization from the owner of the equipment or the relevant institution.	/
2	USB storage not found	fault message	The USB port is not properly inserted or is not in good contact.	Reinsert the USB drive	/
3	Probe not support	fault message	The probe is not compatible with the animal use or OEM.	Match correctly before use.	/
4	Pairing failure	fault message	The probe and the device failed to match successfully.	Re-pairing	/
5	Freezing failed. Please check if the probe is properly inserted.	fault message	The probe is not connected or has poor contact.	Normal connection of the probe	/
6	Connection of the probe failed. Please try restarting the probe.	fault message	The probe's WIFI connection failed.	Restart and reconnect as required	/
7	Array element function is missing.	fault message	A fault was detected in the probe's array element.	Reinsert and remove the probe. If ineffective, it needs to be repaired.	/
8	Performance failure	fault message	A performance	Reinsert and remove the probe. If	/

			fault was detected in the probe.	ineffective, it needs to be repaired.	
9	Failed to establish connection	fault message	The network connection is poor. It has been connected by other terminals. The device has been powered off.	Try to reconnect. Restart the device and reconnect. Restart the device.	/
10	Program encountered an error and is about to exit!	error message	Error in program data storage space; program runaway	Restart the application	/
11	Error occurred while querying the work list server	error message	No network connection. The server is not working properly.	Ping the server first to confirm if it is connected	/
12	Access to this network is prohibited	error message	Abnormal network connection	Reconnect after restarting the device	/
13	Authentication failed	error message	Authentication server connection is abnormal	Ping the server first to confirm if it is connected	/
14	Update failed!	error message	The upgrade file is not an available file. It was interfered with by other programs during the upgrade process.	Confirm the integrity of the upgrade file. Freeze the image first, then update	/

13.2 To be resolved by user

No.	Information	Information	Cause	Solution	Note
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		type			
1	The account has been locked. Please log in again after 10 minutes.	system messages	Excessive attempts to log in with account password	Retry by entering the correct account and password again in 10 minutes.	/
2	This function can only be used when the account is frozen!	fault message	Some functions can only be used when the image is frozen	Use this function after the image is frozen.	/
3	The temperature is too high. The system is about to shut down.	fault message	Warning for excessively high device temperature	Shut down the device, and then use it when the temperature is normal.	/
4	Please confirm that the probe has entered the pairing mode. If not, please long press the menu button on the probe to enter the pairing mode. If you need to pair, please press "Confirm", otherwise press "Cancel".	fault message	Probe pairing mode prompt	If you need to pair and confirm, otherwise cancel.	/
5	Are you sure you want to revert to the factory settings?	fault message	Resetting to factory settings will reset user data. This function may result in the loss of user settings. To ensure safety, this prompt message is displayed to prevent user errors.	If you need to revert to factory settings, please click OK. If so, cancel.	/
6	PrinterShare is not installed. Please install PrinterShare first.	system messages	Printing software not installed	After installing the printing software, you can print.	/

7	Incorrect name or password	system messages	The user login information is entered incorrectly.	Re-enter the new username	/
8	This username already exists	system messages	When setting new user information, the same username already exists.	Make sure the passwords entered twice are the same	/
9	The two entered passwords do not match	system messages	When setting new user information, the two passwords entered are not consistent.	Enter the data in accordance with the password format requirements	/
10	The password format is incorrect	error message	When setting new user information, the password format is incorrect.	If you need to reconnect, click "OK" to enter the device connection interface and reconnect. If not, click "Cancel"	/
11	The probe WIFI connection has been disconnected. Do you want to open the probe WIFI connection dialog box to reconnect?	system messages	When the device's WIFI automatically disconnects for some reason, it prompts the user to reconnect the device.	Re-enter the new username	/
12	Channel settings have been successful. Please restart the probe.	system messages	Set the communication channel used for the device's WIFI signal. This setting requires restarting the ultrasound device to take effect.	After restarting the ultrasound equipment, the channel settings will become invalid.	/

13	The battery level of the probe is below 10%. Please charge it promptly!	system messages	Low probe battery level prompt.	Turn off the probe and charge it. Restart the software	/
14	Note: The operation is successful. The software needs to be restarted for it to take effect.	system messages	Setting preset parameters, updating permissions, etc. require restarting the software to take effect.	The temperature is too high, and the equipment has frozen.	/
15	High temperature	error message	High device temperature prompt	After restarting the ultrasound equipment, the channel settings will become invalid.	/

Legal manufacturer:



WuHan Youkey Bio-Medical Electronics Co., Ltd.

2nd Floor, Dingxin Industry Park, Jiayuan Road East Lake Development Zone Wuhan
430000 CHINA

14 FCC Caution:

Part 15.21

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Part 15.19

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment.
3. The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.